

PROFESSIONAL SERVICES CONTRACT BETWEEN  
THE CITY OF HUNTINGTON BEACH AND  
ITERIS, INC.  
FOR  
DESIGN SERVICES FOR BOLSA CHICA REGIONAL  
TRAFFIC SYNCHRONIZATION PROJECT FOR CC-1622

THIS AGREEMENT ("Agreement") is made and entered into by and between the City of Huntington Beach, a municipal corporation of the State of California, hereinafter referred to as "CITY," and, ITERIS, INC., a hereinafter referred to as "CONSULTANT."

WHEREAS, CITY desires to engage the services of a consultant to perform design services for the Bolsa Chica Regional Traffic Signal Synchronization Project for CC-1622; and

Pursuant to documentation on file in the office of the City Clerk, the provisions of the Huntington Beach Municipal Code, Chapter 3.03, relating to procurement of professional service contracts have been complied with; and

CONSULTANT has been selected to perform these services,

NOW, THEREFORE, it is agreed by CITY and CONSULTANT as follows:

1. SCOPE OF SERVICES

CONSULTANT shall provide all services as described in **Exhibit "A,"** which is attached hereto and incorporated into this Agreement by this reference. These services shall sometimes hereinafter be referred to as the "PROJECT."

CONSULTANT hereby designates Steven Bradley who shall represent it and be its sole contact and agent in all consultations with CITY during the performance of this Agreement.

2. CITY STAFF ASSISTANCE

CITY shall assign a staff coordinator to work directly with CONSULTANT in the performance of this Agreement.

3. TERM; TIME OF PERFORMANCE

Time is of the essence of this Agreement. The services of CONSULTANT are to commence on , 2023 (the "Commencement Date"). This Agreement shall automatically terminate three (3) years from the Commencement Date, unless extended or sooner terminated as provided herein. All tasks specified in **Exhibit "A"** shall be completed no later than two (2) years from the Commencement Date. The time for performance of the tasks identified in **Exhibit "A"** are generally to be shown in **Exhibit "A."** This schedule may be amended to benefit the PROJECT if mutually agreed to in writing by CITY and CONSULTANT.

In the event the Commencement Date precedes the Effective Date, CONSULTANT shall be bound by all terms and conditions as provided herein.

4. COMPENSATION

In consideration of the performance of the services described herein, CITY agrees to pay CONSULTANT on a time and materials basis at the rates specified in **Exhibit "B,"** which is attached hereto and incorporated by reference into this Agreement, a fee, including all costs and expenses, not to exceed Six Hundred Forty Six Thousand One Hundred Thirty Six Dollars (\$646,136.00).

5. EXTRA WORK

In the event CITY requires additional services not included in **Exhibit "A"** or changes in the scope of services described in **Exhibit "A,"** CONSULTANT will undertake such work only after receiving written authorization from CITY. Additional

compensation for such extra work shall be allowed only if the prior written approval of CITY is obtained.

6. METHOD OF PAYMENT

CONSULTANT shall be paid pursuant to the terms of **Exhibit "B."**

7. DISPOSITION OF PLANS, ESTIMATES AND OTHER DOCUMENTS

CONSULTANT agrees that title to all materials prepared hereunder, including, without limitation, all original drawings, designs, reports, both field and office notices, calculations, computer code, language, data or programs, maps, memoranda, letters and other documents, shall belong to CITY, and CONSULTANT shall turn these materials over to CITY upon expiration or termination of this Agreement or upon PROJECT completion, whichever shall occur first. These materials may be used by CITY as it sees fit.

8. HOLD HARMLESS

A. CONSULTANT hereby agrees to protect, defend, indemnify and hold harmless CITY, its officers, elected or appointed officials, employees, agents and volunteers from and against any and all claims, damages, losses, expenses, judgments, demands and defense costs (including, without limitation, costs and fees of litigation of every nature or liability of any kind or nature) arising out of or in connection with CONSULTANT's (or CONSULTANT's subcontractors, if any) negligent (or alleged negligent) performance of this Agreement or its failure to comply with any of its obligations contained in this Agreement by CONSULTANT, its officers, agents or employees except such loss or damage which was caused by the sole negligence or willful misconduct of CITY. CONSULTANT will conduct all defense at its sole cost and expense and CITY shall approve selection of CONSULTANT's counsel. This indemnity shall

apply to all claims and liability regardless of whether any insurance policies are applicable. The policy limits do not act as limitation upon the amount of indemnification to be provided by CONSULTANT.

B. To the extent that CONSULTANT performs "Design Professional Services" within the meaning of Civil Code Section 2782.8, then the following Hold Harmless provision applies in place of subsection A above:

"CONSULTANT hereby agrees to protect, defend, indemnify and hold harmless CITY and its officers, elected or appointed officials, employees, agents and volunteers, from and against any and all claims, damages, losses, expenses, demands and defense costs (including, without limitation, costs and fees of litigation of every nature or liability of any kind or nature) to the extent that the claims against CONSULTANT arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of CONSULTANT. In no event shall the cost to defend charged to CONSULTANT exceed CONSULTANT's proportionate percentage of fault. However, notwithstanding the previous sentence, in the event one or more other defendants to the claims and/or litigation is unable to pay its share of defense costs due to bankruptcy or dissolution of the business, CONSULTANT shall meet and confer with CITY and other defendants regarding unpaid defense costs. The duty to indemnify, including the duty and the cost to defend, is limited as provided in California Civil Code Section 2782.8.

C. Regardless of whether subparagraph A or B applies, CITY shall be reimbursed by CONSULTANT for all costs and attorney's fees incurred by CITY in enforcing this obligation. This indemnity shall apply to all claims and liability regardless of whether any insurance policies are applicable. The policy limits do not act as a limitation upon the amount of indemnification to be provided by CONSULTANT.

9. PROFESSIONAL LIABILITY INSURANCE

CONSULTANT shall obtain and furnish to CITY a professional liability insurance policy covering the work performed by it hereunder. This policy shall provide coverage for CONSULTANT's professional liability in an amount not less than One Million Dollars (\$1,000,000.00) per occurrence and in the aggregate. The above-mentioned insurance shall not contain a self-insured retention without the express written consent of CITY; however an insurance policy "deductible" of Ten Thousand Dollars (\$10,000.00) or less is permitted. A claims-made policy shall be acceptable if the policy further provides that:

- A. The policy retroactive date coincides with or precedes the initiation of the scope of work (including subsequent policies purchased as renewals or replacements).
- B. CONSULTANT shall notify CITY of circumstances or incidents that might give rise to future claims.

CONSULTANT will make every effort to maintain similar insurance during the required extended period of coverage following PROJECT completion. If insurance is terminated for any reason, CONSULTANT agrees to purchase an extended reporting provision of at least two (2) years to report claims arising from work performed in connection with this Agreement.

If CONSULTANT fails or refuses to produce or maintain the insurance required by this section or fails or refuses to furnish the CITY with required proof that insurance has been procured and is in force and paid for, the CITY shall have the right, at the CITY's election, to forthwith terminate this Agreement. Such termination shall not

effect Consultant's right to be paid for its time and materials expended prior to notification of termination. CONSULTANT waives the right to receive compensation and agrees to indemnify the CITY for any work performed prior to approval of insurance by the CITY.

10. CERTIFICATE OF INSURANCE

Prior to commencing performance of the work hereunder, CONSULTANT shall furnish to CITY a certificate of insurance subject to approval of the City Attorney evidencing the foregoing insurance coverage as required by this Agreement; the certificate shall:

- A. provide the name and policy number of each carrier and policy;
- B. state that the policy is currently in force; and
- C. shall promise that such policy shall not be suspended, voided or canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice; however, ten (10) days' prior written notice in the event of cancellation for nonpayment of premium.

CONSULTANT shall maintain the foregoing insurance coverage in force until the work under this Agreement is fully completed and accepted by CITY.

The requirement for carrying the foregoing insurance coverage shall not derogate from CONSULTANT's defense, hold harmless and indemnification obligations as set forth in this Agreement. CITY or its representative shall at all times have the right to demand the original or a copy of the policy of insurance. CONSULTANT shall pay, in a prompt and timely manner, the premiums on the insurance hereinabove required.

11. INDEPENDENT CONTRACTOR

CONSULTANT is, and shall be, acting at all times in the performance of this Agreement as an independent contractor herein and not as an employee of CITY. CONSULTANT shall secure at its own cost and expense, and be responsible for any and all payment of all taxes, social security, state disability insurance compensation, unemployment compensation and other payroll deductions for CONSULTANT and its officers, agents and employees and all business licenses, if any, in connection with the PROJECT and/or the services to be performed hereunder.

12. TERMINATION OF AGREEMENT

All work required hereunder shall be performed in a good and workmanlike manner. CITY may terminate CONSULTANT's services hereunder at any time with or without cause, and whether or not the PROJECT is fully complete. Any termination of this Agreement by CITY shall be made in writing, notice of which shall be delivered to CONSULTANT as provided herein. In the event of termination, all finished and unfinished documents, exhibits, report, and evidence shall, at the option of CITY, become its property and shall be promptly delivered to it by CONSULTANT.

13. ASSIGNMENT AND DELEGATION

This Agreement is a personal service contract and the work hereunder shall not be assigned, delegated or subcontracted by CONSULTANT to any other person or entity without the prior express written consent of CITY. If an assignment, delegation or subcontract is approved, all approved assignees, delegates and subconsultants must satisfy the insurance requirements as set forth in Sections 9 and 10 hereinabove.

14. COPYRIGHTS/PATENTS

CITY shall own all rights to any patent or copyright on any work, item or material produced as a result of this Agreement.

15. CITY EMPLOYEES AND OFFICIALS

CONSULTANT shall employ no CITY official nor any regular CITY employee in the work performed pursuant to this Agreement. No officer or employee of CITY shall have any financial interest in this Agreement in violation of the applicable provisions of the California Government Code.

16. NOTICES

Any notices, certificates, or other communications hereunder shall be given either by personal delivery to CONSULTANT's agent (as designated in Section 1 hereinabove) or to CITY as the situation shall warrant, or by enclosing the same in a sealed envelope, postage prepaid, and depositing the same in the United States Postal Service, to the addresses specified below. CITY and CONSULTANT may designate different addresses to which subsequent notices, certificates or other communications will be sent by notifying the other party via personal delivery, a reputable overnight carrier or U. S. certified mail-return receipt requested:

TO CITY:

City of Huntington Beach  
ATTN: Director of Public Works  
2000 Main Street  
Huntington Beach, CA 92648

TO CONSULTANT:

Iteris, Inc.  
ATTN: Steve Bradley  
1700 Carnegie Avenue, Suite 100  
Santa Ana, CA 92705



17. CONSENT

When CITY's consent/approval is required under this Agreement, its consent/approval for one transaction or event shall not be deemed to be a consent/approval to any subsequent occurrence of the same or any other transaction or event.

18. MODIFICATION

No waiver or modification of any language in this Agreement shall be valid unless in writing and duly executed by both parties.

19. SECTION HEADINGS

The titles, captions, section, paragraph and subject headings, and descriptive phrases at the beginning of the various sections in this Agreement are merely descriptive and are included solely for convenience of reference only and are not representative of matters included or excluded from such provisions, and do not interpret, define, limit or describe, or construe the intent of the parties or affect the construction or interpretation of any provision of this Agreement.

20. INTERPRETATION OF THIS AGREEMENT

The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against any of the parties. If any provision of this Agreement is held by an arbitrator or court of competent jurisdiction to be unenforceable, void, illegal or invalid, such holding shall not invalidate or affect the remaining covenants and provisions of this Agreement. No covenant or provision shall be deemed dependent upon any other unless so expressly provided here. As used in this Agreement, the masculine or neuter gender and singular or plural number shall be deemed to include the other whenever the context so indicates or requires. Nothing contained herein shall be construed so as to require the commission of any act

contrary to law, and wherever there is any conflict between any provision contained herein and any present or future statute, law, ordinance or regulation contrary to which the parties have no right to contract, then the latter shall prevail, and the provision of this Agreement which is hereby affected shall be curtailed and limited only to the extent necessary to bring it within the requirements of the law.

21. DUPLICATE ORIGINAL

The original of this Agreement and one or more copies hereto have been prepared and signed in counterparts as duplicate originals, each of which so executed shall, irrespective of the date of its execution and delivery, be deemed an original. Each duplicate original shall be deemed an original instrument as against any party who has signed it.

22. IMMIGRATION

CONSULTANT shall be responsible for full compliance with the immigration and naturalization laws of the United States and shall, in particular, comply with the provisions of the United States Code regarding employment verification.

23. LEGAL SERVICES SUBCONTRACTING PROHIBITED

CONSULTANT and CITY agree that CITY is not liable for payment of any subcontractor work involving legal services, and that such legal services are expressly outside the scope of services contemplated hereunder. CONSULTANT understands that pursuant to *Huntington Beach City Charter* Section 309, the City Attorney is the exclusive legal counsel for CITY; and CITY shall not be liable for payment of any legal services expenses incurred by CONSULTANT.

24. ATTORNEY'S FEES

In the event suit is brought by either party to construe, interpret and/or enforce the terms and/or provisions of this Agreement or to secure the performance hereof, each party shall bear its own attorney's fees, such that the prevailing party shall not be entitled to recover its attorney's fees from the nonprevailing party.

25. SURVIVAL

Terms and conditions of this Agreement, which by their sense and context survive the expiration or termination of this Agreement, shall so survive.

26. GOVERNING LAW

This Agreement shall be governed and construed in accordance with the laws of the State of California.

27. SIGNATORIES

Each undersigned represents and warrants that its signature hereinbelow has the power, authority and right to bind their respective parties to each of the terms of this Agreement, and shall indemnify CITY fully for any injuries or damages to CITY in the event that such authority or power is not, in fact, held by the signatory or is withdrawn.

28. ENTIRETY

The parties acknowledge and agree that they are entering into this Agreement freely and voluntarily following extensive arm's length negotiation, and that each has had the opportunity to consult with legal counsel prior to executing this Agreement. The parties also acknowledge and agree that no representations, inducements, promises, agreements or warranties, oral or otherwise, have been made by that party or anyone acting on that party's behalf, which are not embodied in this Agreement, and that that party has not executed this Agreement in reliance on any representation, inducement,

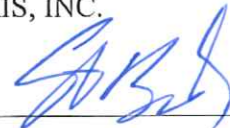
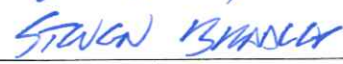
promise, agreement, warranty, fact or circumstance not expressly set forth in this Agreement. This Agreement, and the attached exhibits, contain the entire agreement between the parties respecting the subject matter of this Agreement, and supersede all prior understandings and agreements whether oral or in writing between the parties respecting the subject matter hereof.

29. EFFECTIVE DATE

This Agreement shall be effective on the date of its approval by the City Attorney. This Agreement shall expire when terminated as provided herein.

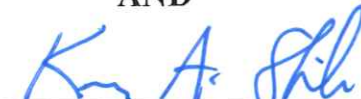
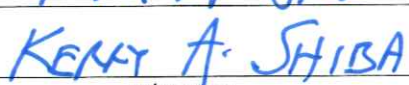
IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their authorized officers.

CONSULTANT,  
ITERIS, INC.

By:   
\_\_\_\_\_  
  
\_\_\_\_\_  
print name

ITS: (circle one) Chairman/President/Vice President

AND

By:   
\_\_\_\_\_  
  
\_\_\_\_\_  
print name

ITS: (circle one) Secretary/Chief Financial Officer/Asst.  
Secretary – Treasurer


CITY OF HUNTINGTON BEACH,  
a municipal corporation of the State of  
California

\_\_\_\_\_  
City Manager

INITIATED AND APPROVED:

  
\_\_\_\_\_  
Director of Public Works

APPROVED AS TO FORM:

  
\_\_\_\_\_  
City Attorney

Date \_\_\_\_\_

RECEIVE AND FILE:

\_\_\_\_\_  
City Clerk

Date \_\_\_\_\_

promise, agreement, warranty, fact or circumstance not expressly set forth in this Agreement. This Agreement, and the attached exhibits, contain the entire agreement between the parties respecting the subject matter of this Agreement, and supersede all prior understandings and agreements whether oral or in writing between the parties respecting the subject matter hereof.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their authorized officers.

CONSULTANT,  
ITERIS, INC.

CITY OF HUNTINGTON BEACH,  
a municipal corporation of the State of  
California

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

\_\_\_\_\_  
City Manager

\_\_\_\_\_  
print name

**ITS:** (circle one) Chairman/President/Vice President

INITIATED AND APPROVED:

**AND**

  
\_\_\_\_\_  
Director of Public Works

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

APPROVED AS TO FORM:

\_\_\_\_\_  
print name

**ITS:** (circle one) Secretary/Chief Financial Officer/Asst.  
Secretary – Treasurer

  
\_\_\_\_\_  
City Attorney

Date \_\_\_\_\_

RECEIVE AND FILE:

\_\_\_\_\_  
City Clerk

Date \_\_\_\_\_

## **EXHIBIT "A"**

- A. STATEMENT OF WORK: (Narrative of work to be performed)

**SEE ATTACHED EXHIBIT A**

- B. CONSULTANT'S DUTIES AND RESPONSIBILITIES:

- C. CITY'S DUTIES AND RESPONSIBILITIES:

- D. WORK PROGRAM/PROJECT SCHEDULE:

5. Any billings for extra work or additional services authorized in advance and in writing by CITY shall be invoiced separately to CITY. Such invoice shall contain all of the information required above, and in addition shall list the hours expended and hourly rate charged for such time. Such invoices shall be approved by CITY if the work performed is in accordance with the extra work or additional services requested, and if CITY is satisfied that the statement of hours worked and costs incurred is accurate. Such approval shall not be unreasonably withheld. Any dispute between the parties concerning payment of such an invoice shall be treated as separate and apart from the ongoing performance of the remainder of this Agreement.

## **EXHIBIT A**

### **3. SCOPE OF WORK**

The general scope of work shall include:

The City of Huntington Beach desires to retain an experienced consultant to implement the Valley View Street/Bolsa Chica Street Corridor Traffic Signal Synchronization Project, approved by Orange County Transportation Authority (OCTA) as part of the 2022 Project P corridors from Measure M (M2).

The project length is approximately 6.0 miles and includes 22 signalized intersections, starting from Chapman Ave in Garden Grove to Warner Ave in Huntington Beach (Exhibit A). The participating agencies are the Cities of Garden Grove, Westminster, and Huntington Beach. Caltrans is not a participating agency however preparing timing for SR-22 ramp, Garden Grove Blvd, and Tiffany Ave. signals on Valley View Street is a component of the project. Timing implementation at the Caltrans signals will be Caltrans' responsibility and there are no improvements proposed or planned for Caltrans signals.

The goals for the project are to provide all required timing and improvements, identified in the project application (Exhibit B), to improve traffic flow, reduce stop and minimize congestion on the Valley View Street/Bolsa Chica Street corridor. The scope of work includes but not limited to the followings:

- Provide project and contract management throughout the 3-year project duration.
- Provide timing and operation analysis, develop and implement optimized traffic signal synchronization timing for the corridor.
- Provide engineering services to prepare plans, specifications and estimates for traffic signal equipment and related infrastructure improvements. The field improvements contractor will be selected via each individual participating agencies bid and award process and bid package prepared by consultant.
- Provide construction management services to oversee the improvement implementations of the project.
- Provide procurement and system integration services for traffic signal system, monitoring system and related communication system
- Provide ongoing signal timing and maintenance support for 2-year after initial implementation of the timing.
- Provide assistance in management and maintenance of the OCTA Measure M (M2) Funds for this project.

The following specific tasks are required to be performed in the course of providing service for the traffic signal coordination project. Tasks are listed in sequential order for clarity. However, tasks may run concurrently or commence prior to the order listed.

#### **I. Task 1: Project Management**

- Project management is ongoing throughout the duration of the project. This task includes day-to-day project management, such as meetings, progress reports, tracking of schedules, invoicing, and overall administration of the project. The consultant is required to maintain communication to all involved agencies including OCTA as to the ongoing



status of the project. The consultant acts as an extension of Huntington Beach staff and will act in that capacity at meetings with the respective corridor agencies. Following are additional specifics required for this task:

- A. The consultant shall prepare a detailed Project Management Plan that includes budget and schedule estimates for all of the tasks described in the scope of work, providing specific project milestones for review and approval. These items shall be detailed and include expected meetings, activities (by work task, whether performed by consultant team or by others), start dates, activity durations, product submittal dates, relationships among work tasks (including critical path items), and a detailed flow chart for the project tasks, and float time.
- B. Consultant shall lead a project Kick-Off Meeting with all agency representatives to establish communication channels and protocols discuss the scope, schedule, and budget; gather available information; and obtain a thorough understanding of the goals for the project. Specific topics to discuss include data collection needs, specific programs or software used and specific construction items and procurement methodologies.
- C. Consultant shall conduct monthly progress meeting with participating agencies. Consultant shall prepare agendas, provide status updates, discuss the progress and direction of the work, and provide minutes for all meetings. Consultant may conduct additional meetings as necessary during the course of the project to address immediate issues or needs.
- D. Consultant is required to make presentations as necessary to OCTA or participating agency's Council, designated Committee or interagency meetings to present project purpose and results.
- E. Consultant shall document and maintain separate project expenses for each participating agency.
- F. Consultant shall maintain and perform documentation for the Measure M2 Funds to provide with OCTA to be in compliant with the funds. The consultant will be responsible for ensuring that the project requirements specified by OCTA in the *Comprehensive Transportation Funding Programs Guidelines, 2020 Call for Projects*, Chapter 8, are satisfied.

## **II. Task 2: Develop and Implement Traffic Signal Synchronization Timing**

Consultant shall collect all traffic data; perform field and existing traffic signal inventory as necessary in the project corridor to develop the optimal traffic signal synchronization plans.

### **A. Data Collection**

- 1. Consultant shall conduct one 24-hour mid-week and two 24-hour weekend (Sat and Sun) machine counts at every half-mile along the project. 24-hour data will be used to determine the peak hour counts and synchronization.

2. Consultant shall collect vehicle classification counts at all locations where 24-hour counts are taken.
3. Consultant shall conduct weekday and weekend peak period turning movement counts (TMC) at each and every one of the project signalized intersections.
  - a. Weekday TMC counts shall be conducted for two hours of each peak period (AM, Mid-day, and PM).
  - b. Weekend TMC counts shall be conducted for one 2-hour peak period (either on Saturday or Sunday). Exact time and day to be determined from 24 hours counts.
4. Field Inventory and Exist Timing Parameters  
Consultant shall perform thorough field inventory of all project intersections including traffic signal controller, related hardware, geometric layout and existing timing parameters as necessary for timing analysis.

B. Timing Analysis and Development of Synchronization Plans

1. Consultant shall work with the agencies to develop a model of the study area and calibrate the model based on field observations of existing conditions. Signal simulation shall be conducted in Synchro/Sim Traffic 11.0. The corridor model must be consistent with all aspects and seamlessly interface and interlace with the County Wide Synchro Network as administered by OCTA GIS/ROADS database. Node or intersection numbering scheme must remain consistent with ROADS.
2. Consultant shall develop optimized signal timings using the results from Synchro/SimTraffic 11.0 and recommend any changes to the signal phasing at each signalized intersection that may improve the efficiency of operations.
3. Consultant shall prepare, at minimum:
  - a. Three (3) timing plans for a typical weekday which consider the following peak periods: AM Peak, Mid-day Peak, PM Peak
  - b. One (1) timing plan for a typical weekend peak.
  - c. Calculate and provide minimum Pedestrian Crossing Clearance timing based on 3.5 fps walking rate for every signalized intersection in the project.
  - d. Calculate and provide minimum bicycle clearance timing based on the current Caltrans bicycle requirements for every signalized intersection in the project.
  - e. Evaluate and calculate red and yellow clearance interval for every signalized intersection in the project.

C. Implementation and Fine-Tune

1. Upon approval of the optimized signal timings by the agencies, the consultant shall implement, or assist staff in the implementation of new signal timings either through the central traffic signal system or direct implementation at the intersection controller units
  - a. Consultant shall assist agency staff to input and setup necessary synchronization parameters on their respective traffic signal system.

2. Once new timing is implemented, Consultant shall field review the timing and make or suggest timing changes to fine-tune the timing as necessary for each peak, including weekend peak. Consultant will assist agency staff in making changes in their respective system.

#### D. Before and After Evaluation

Project travel-time data will be collected using the floating car method, a laptop computer, a GPS receiver unit, and the methodologies and software identified below.

##### 1. Before Study

Consultant shall conduct a 'Before' field study report representative of the times and days for which synchronization plans will be developed. The report shall identify Measures of Effectiveness (MOE) to evaluate the effects of the synchronization plans. MOE's will likely include traffic flow, travel time, average speed, number of stops per mile, number of intersections traversed on green vs. stopped by red (Greens per Red) (*note: Average Speed, Stops per Mile, and Greens per Red are the new OCTA MOE, Corridor Synchronization Performance Index (CSPI)*), fuel consumption reduction, pollution reduction, and other pertinent items.

The CONSULTANT shall include the CSPI as part of the MOEs as they are easily identifiable by lay persons relevant to demonstrating corridor improvements. The identified MOE's shall be compiled for the corridor using the floating car method and from Synchro 11.0 and from Tru-Traffic Version 10.0. At least five (5) runs will be completed in each direction for each of the three weekday timing plans (a.m., mid-day, and p.m.), and at least five (5) runs will be completed in each direction during the weekend plan.

##### 2. After Study

Consultant shall conduct two (2) "After" field studies.

- First "After" study is to be completed after the completion of the initial timing implementation.
- Second 'After' study is to be completed at the end of the 3 year contract. This is to determine the effectiveness or degradation of the system timing after year 3 due to changes in road conditions, traffic patterns and whether additional timing is necessary.

Consultant shall conduct the 'After' field study report representative of the times and days for which synchronization plans was developed. The 'After' study must be conducted in the same manner and contain the same MOE's as the 'Before' study in order to evaluate the improvements of the synchronization plans. The identified MOE's shall be compiled for the corridor using the floating car method and from Synchro 11.0 and from Tru-Traffic Version 10.0. At least five (5) runs will be completed in each direction for each of the three weekday timing plans (a.m., midday, and p.m.), and at least five (5) runs will be completed in each direction during the Saturday midday plan.

Consultant shall prepare a memorandum comparing the results of the 'Before' and 'After' field study with reference to the specific MOE's and present the findings to the agencies. Consultant shall finalize the memorandum based on comments received from the agencies.

### **III. Task 3: Engineering (PS&E), System Procurement and Integration**

The project also has a number of improvements that include traffic signals upgrade, traffic surveillance system, detection system, communication system, uninterrupted power supply, Traffic Management Center hardware/software upgrades and other traffic signal synchronization related.

- All standard field construction that required proper licensed and bonded contractor will follow Huntington Beach's bid and award process for project limits within the City of Huntington Beach. These will require Plans, Specifications and Estimate packages to be prepared by the consultant under Engineering (PS&E) task. Payment for field improvements via Huntington Beach bid and award process will be the City's responsibility.
- All other improvements including hardware/software upgrade that can be completed under professional engineering services will be done by the consultant or its subcontractor under System Procurement and Integration Task. Payment for all work under system procurement and integration will be the Consultant's responsibility.

#### **A. Engineering (PS&E)**

Consultant shall perform all necessary data collection and field review to prepare plans, specifications and estimates and bid packages for the listed improvements for the complete corridor project. Each individual city will received a final engineering PS&E package specifically to the individual city standards and specifications.

The engineering PS&E and bid package for improvement in the City of Huntington Beach shall conform to City of Huntington Beach's standards and procedures for bid and award. In addition, for the City of Garden Grove and City of Westminster the plans and specifications for improvements shall conform to each individual agency's standards and procedures for bid and award accordingly.

##### **1. City of Garden Grove:**

From the list of improvements identified in the Exhibit B, the following specific improvements will require preparation of PS&E:

- a. Foundation and cabinet and controller upgrade
- b. Video detection installation
- c. Close circuit television video surveillance
- d. Pedestrian equipment upgrade
- e. Fiber network Ethernet switch
- f. All other related improvements on the application but not listed under the consultant procurement and implementation.

##### **2. City of Westminster:**

From the list of improvements identified in the Exhibit B, the following specific improvements will require preparation of PS&E:

- a. Traffic controller upgrade
- b. Video detection installation
- c. Close circuit television video surveillance
- d. Fiber network Ethernet switch
- e. All other related improvements on the application but not listed under the consultant procurement and implementation.

3. City of Huntington Beach:

From the list of improvements identified in Exhibit B, the following specific improvements will require PS&E:

- a. Traffic controller upgrade
- b. Close circuit television video surveillance
- c. Fiber network Ethernet switch
- d. All other related improvements on the application but not listed under the consultant procurement and implementation.

**B. System Procurement and Integration**

Consultant or its subcontractor under the engineering services shall be responsible for the procurement, installation and integration of the improvements listed below. All controllers, communication equipment, system hardware and firmware shall have 3 year license/maintenance/guarantee on firmware/software patches, fixes, updates or upgrades.

1. City of Garden Grove

a. TMC

Consultant will work with Garden Grove staff to determine the details of the uninterrupted power supply, Layer 3 network fiber switch, and Centrac upgrades at the Traffic Management Center (TMC). The system upgrades to include the following:

- 1. All necessary server(s), hardware and for operating, managing and the layer 3 network fiber switch.
- 2. Upgrade video management software and integrate existing CCTV cameras to be able to operate.
- 3. Install a new uninterrupted power supply to support traffic servers and workstations
- 4. Upgrade to Centrac systems for license and traffic management purposes

b. IP Communication

Consultant shall procure and install all IP communication equipment (i.e. Ethernet and fiber optic switches) as shown in the Exhibit B.

- c. Traffic signal controllers replacement  
Consultant shall procure and install traffic signal controller as shown in the Exhibit B.
- d. Audible Pedestrian Push Button System  
Consultant shall procure and program with contractor to install all APS PPB system as shown in the Exhibit B.
- e. Close Circuit Television Video surveillance camera  
Consultant shall procure and program with contractor to install CCTV Camera as shown in the Exhibit B.

## 2. City of Westminster

- a. Video Detection System  
Consultant shall procure and program with contractor to install all necessary connection for video detection system as shown in the Exhibit B.
- b. IP Communication  
Consultant shall procure and install all IP communication equipment (i.e. Ethernet and fiber optic switches) as shown in the Exhibit B.
- c. Traffic signal controllers replacement  
Consultant shall procure and install traffic signal controller as shown in the Exhibit B.
- d. Close Circuit Television Video surveillance camera  
Consultant shall procure and program with contractor to install CCTV Camera as shown in the Exhibit B.

## 3. City of Huntington Beach

- a. TMC  
Consultant will work with Huntington Beach staff to assist in Transparency intersection system graphics integration at the Traffic Management Center (TMC). The system integration to include the following:
  - 1. Create new intersection aerial view along Bolsa Chica
  - 2. Setup all phases and detections to display on intersection graphics correctly
- b. IP Communication  
Consultant shall procure and install all IP communication equipment (i.e. Ethernet and fiber optic switches) as shown in the Exhibit B.
- c. Traffic signal controllers replacement  
Consultant shall procure and install traffic signal controller as shown in the Exhibit B.

- d. Close Circuit Television Video surveillance camera  
Consultant shall procure and program with contractor to install CCTV Camera as shown in the Exhibit B.

#### **IV. Task 4: Construction Management**

Once the improvements contracts are awarded and processed by each individual city to a construction contractors, Consultant shall provide engineering, coordination and documentation support with the contractor at each city as necessary to ensure proper and complete implementation of the project improvements. Consultant shall provide any changes from the field improvement and make corrections and revise as-built plans. In addition, Consultant shall provide the following services:

**A. City of Garden Grove**

Consultant, as representative for Huntington Beach Construction Management, shall coordinate with each City's contractor and oversee all the improvements within City of Garden Grove. However, all construction inspection services, daily administration of the construction processing, and financial processing will be provided by City of Garden Grove staff.

**B. City of Westminster**

Consultant, as representative for Huntington Beach Construction Management, shall coordinate with each City's contractor and oversee all the improvements within City of Westminster. However, all construction inspection services, daily administration of the construction processing, and financial processing will be provided by City of Westminster staff.

**C. City of Huntington Beach**

Consultant, as representative for Huntington Beach Construction Engineering, shall coordinate with the each City's contractor and oversee all the improvements within City of Huntington Beach. However, all construction inspection services, daily administration of the construction processing, and financial processing will be provided by City of Huntington Beach staff.

#### **V. Task 5: Provide Ongoing Operational and Maintenance Services**

**A. Ongoing Operational Services**

CONSULTANT will provide "on-call" signal timing support services for a period of two years or 24 months following the implementation and fine tuning of the final signal timing plans to address any future adjustments that may be needed during this period.

CONSULTANT will drive the length of the project arterial during all designated corridor synchronization timing plans (AM, Mid-day, PM and Weekend peak) on a monthly basis in order to verify that the synchronization timing is working as designed, and complete any necessary adjustments. Consultant shall provide monthly report of the operation.

**B. Ongoing Maintenance Services**

Consultant will provide communication and detection support for the equipment installed as part of the project. Work is limited to troubleshoot and provide repair or provide replacement of equipment, up to the allocated budget.

**VI. Task 6: Project Report**

**A. Final Report**

- At the completion of timing and improvement implementation, consultant shall prepare a Final Report. The report shall provide complete documentation of the project, including, but not limited to, executive summary, project objectives, project locations, project scope, findings, recommendations, implementation schedule, improvements accomplished, procedures for continuing maintenance, surveillance, and evaluation of the coordinated signal system, work performed, data collected: 'before' and 'after' studies and project benefits achieved in terms of fuel savings, travel time, and other measurable parameters. The report shall include for each intersection the lane configurations; signal phasing, turning movement data, and cycle lengths for existing and proposed timings for all peak periods. In addition, in a separate binder, all the traffic signal phase sequences signal timing plans, bicycle timing and pedestrian timings shall be documented.
- The report shall document all planned and programmed improvements on the study corridor as well as recommendations for further infrastructure improvements that would likely improve the corridor signal coordination project results. Consultant shall present the final report and results of the project to OCTA and city councils if required. The report shall be completed in accordance with the current CTFP Guidelines.

**Deliverables:**

- 5 hard copies of the Final Report
- Electronic versions of all reports, data files and memorandums

**B. Supplemental Report**

At the end of three year contract, the consultant shall update the Final Report with a Supplemental report, documenting ongoing operations and maintenance, changes made, the analysis of the final 'After' study, and any additional recommendations to the corridor.

**Deliverables:**

- 5 hard copies of the Supplemental Report
- Electronic versions of all reports, data files and memorandums

**VII. Budget Allocation**

Budget for the tasks have been approved and allocated as shown in the table below.

Consultant may adjust costs for individual task as appropriate; however, the total cost for each agency shall not exceed its allocated budget. No additional funds will be provided.



## **EXHIBIT "B"**

### **Payment Schedule (Hourly Payment)**

#### **A. Hourly Rate**

CONSULTANT'S fees for such services shall be based upon the following hourly rate and cost schedule:

**SEE ATTACHED EXHIBIT B**

#### **B. Travel. Charges for time during travel are not reimbursable**

#### **C. Billing**

1. All billing shall be done monthly in fifteen (15) minute increments and matched to an appropriate breakdown of the time that was taken to perform that work and who performed it.
2. Each month's bill should include a total to date. That total should provide, at a glance, the total fees and costs incurred to date for the project.
3. A copy of memoranda, letters, reports, calculations and other documentation prepared by CONSULTANT may be required to be submitted to CITY to demonstrate progress toward completion of tasks. In the event CITY rejects or has comments on any such product, CITY shall identify specific requirements for satisfactory completion.
4. CONSULTANT shall submit to CITY an invoice for each monthly payment due. Such invoice shall:
  - A) Reference this Agreement;
  - B) Describe the services performed;
  - C) Show the total amount of the payment due;
  - D) Include a certification by a principal member of CONSULTANT's firm that the work has been performed in accordance with the provisions of this Agreement; and
  - E) For all payments include an estimate of the percentage of work completed.

Upon submission of any such invoice, if CITY is satisfied that CONSULTANT is making satisfactory progress toward completion of tasks in accordance with this Agreement, CITY shall approve the invoice, in which event payment shall be made within thirty (30) days of receipt of the invoice by CITY. Such approval shall not be unreasonably withheld. If CITY does not approve an invoice, CITY shall notify CONSULTANT in writing of the reasons for non-approval and the schedule of performance set forth in **Exhibit "A"** may at the option of CITY be suspended until the parties agree that past performance by CONSULTANT is in, or has been brought into compliance, or until this Agreement has expired or is terminated as provided herein.

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