



# AGENDA

## LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM AUTHORITY

### BOARD OF DIRECTORS SPECIAL MEETING

Thursday, August 21, 2014 • 1:00 p.m.

Kenneth Hahn Hall of Administration – Room 743  
500 W. Temple St., Los Angeles, CA 90012

Los Angeles Regional Interoperable Communications System Authority (the “Authority”)

#### **AGENDA POSTED: August 20, 2014**

Complete agendas are made available for review at the designated meeting location during normal business hours and may also be accessible on the Authority’s website at <http://www.la-rics.org>.

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#### **Members:**

1. **William T Fujioka**, Chair, CEO, County of Los Angeles
2. **Kim Raney**, Police Chief, City of Covina, representing At Large Seat
3. **Scott Pickwith**, Police Chief, representing the Los Angeles County Police Chiefs Association
4. **Ron Iizuka**, Police Captain, City of Culver City, representing At Large Seat
5. **Mark R. Alexander**, City Manager, representing the California Contract Cities Association
6. **Reginald Harrison**, Deputy City Manager, City of Long Beach
7. **Miguel Santana**, CAO, City of Los Angeles
8. **Gregory L. Simay**, Assistant General Manager, City of Burbank Water & Power, representing At Large Seat
9. **Bill Walker**, Fire Chief, representing the Los Angeles Area Fire Chiefs Association
10. **James G. Featherstone**, Interim Fire Chief, City of Los Angeles
11. **Charles L. Beck**, Vice Chair, Police Chief, City of Los Angeles
12. **Daryl L. Osby**, Fire Chief, County of Los Angeles
13. **Dr. Mitchell H. Katz**, Director, DHS, County of Los Angeles
14. **Gerry F. Miller**, Chief Legislative Analyst, City of Los Angeles
15. **Steven K. Zipperman**, Police Chief, Los Angeles School Police Department
16. **Vacant**, City of El Segundo, representing At Large Seat
17. **John Scott**, Sheriff, County of Los Angeles

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#### **Officers:**

1. **Patrick Mallon**, Executive Director
2. **John Naimo**, County of Los Angeles Auditor-Controller
3. **Mark J. Saladino**, County of Los Angeles Treasurer and Tax Collector
4. **Patricia Saucedo**, Board Secretary



**NOTE: ACTION MAY BE TAKEN ON ANY ITEM IDENTIFIED ON THE AGENDA**

**I. CALL TO ORDER**

**II. ANNOUNCE QUORUM – Roll Call**

**III. APPROVAL OF MINUTES – (None)**

**IV. CONSENT CALENDAR – (None)**

**V. REPORT (1) (None)**

**VI. DISCUSSION ITEMS – (None)**

**VII. ADMINISTRATIVE MATTERS (2–4)**

2. Extension of Funding Plan Opt Out Period

It is recommended that your board:

- a. Extend the deadline for submission of written notices of withdrawal from November 24, 2014 to November 24, 2015; and
- b. Delegate Authority to the Executive Director, or his Designee, to notify Authority Members pursuant to Section 7.01 of the LA-RICS Joint Powers Agreement, of the extended notice of withdrawal date; and
- c. Delegate Authority to the Executive Director, or his Designee, to notify Authority Members who have withdrawn to date, of the extended date; and
- d. Designate Tuesday, November 24, 2015, as the deadline for Authority Members to submit written notice of withdrawal from the Authority, if that is their governing body's determination.

3. Approve Amendment Twelve for Project Management Services with Jacobs Management, Inc.

It is recommended that your board:

- a. Approve an increase to the Maximum Contract Sum in a not to exceed amount of \$2,011,080, which will increase the Maximum Contract Sum amount from \$30,486,265 to \$32,497,345; and
- b. Delegate authority to the Executive Director as follows:
  - i. Finalize and execute Amendment No. 12 with Jacobs, substantially similar to Attachment A;
  - ii. Approve an addition to the contract's scope of work to allow Jacobs to engage and perform certain additional environmental work for the PSBN including, but not limited to, conducting a statutory exemption analysis and delivering a CEQA Notice of Exemption(s), preparing a NEPA-compliant Supplemental EA, and increasing the level of environmental compliance monitoring efforts



to accommodate the compressed construction schedule as set forth in the scope of work, and adjust the Staffing Plan accordingly.

Attachment: Item 3

4. Amendment No. Eight for Agreement No. LA-RICS 007 for Los Angeles Regional Interoperable Communications System – Land Mobile Radio System

It is recommended that your board:

- a. Find that approval and execution of Amendment No. Eight for the purchase and use of Radio Equipment for Agreement No. LA-RICS 007 is exempt from review under the California Environmental Quality Act (CEQA) as it is not a project under CEQA pursuant to CEQA Guidelines Sections 15378(b)(2) and (b)(5), and 15061 (b)(3); and
- b. Approve an increase to the total contract amount by \$3,671,006 increasing the Maximum Contract Sum from \$288,074,669 to \$291,745,675; and
- c. Approve Amendment No. Eight to Agreement No. LA-RICS 007 for the LMR System, in substantially similar form, to Attachment A, to allow the Authority to purchase the Radio Equipment; and
- d. Delegate authority to the Executive Director to execute Amendment No. Eight to Agreement No. LA-RICS 007 for the LMR System, in substantially similar form to Attachment A; and
- e. Delegate authority to the Executive Director to expend grant allocations repurposed to the Authority, if any, in an amount not to exceed the costs required for the provisioning of Radio Equipment for the Authority's member agencies user base.

Attachment: Item 4

**VIII. CLOSED SESSION REPORT – (None)**

**IX. MISCELLANEOUS – (None)**

**X. PUBLIC COMMENTS**

**XI. ITEMS FOR FUTURE DISCUSSION AND/OR ACTION BY THE BOARD**

**XII. ADJOURNMENT and NEXT MEETING:**

Please be advised that the scheduled meeting of September 4, 2014 is cancelled. A Special Meeting is being considered in replacement.



#### BOARD MEETING INFORMATION

Members of the public are invited to address the LA-RICS Authority Board on any item on the agenda prior to action by the Board on that specific item. Members of the public may also address the Board on any matter within the subject matter jurisdiction of the Board. The Board will entertain such comments during the Public Comment period. Public Comment will be limited to three (3) minutes per individual for each item addressed, unless there are more than ten (10) comment cards for each item, in which case the Public Comment will be limited to one (1) minute per individual. The aforementioned limitation may be waived by the Board's Chair.

*(NOTE: Pursuant to Government Code Section 54954.3(b) the legislative body of a local agency may adopt reasonable regulations, including, but not limited to, regulations limiting the total amount of time allocated for public testimony on particular issues and for each individual speaker.)*

Members of the public who wish to address the Board are urged to complete a Speaker Card and submit it to the Board Secretary prior to commencement of the public meeting. The cards are available in the meeting room. However, should a member of the public feel the need to address a matter while the meeting is in progress, a card may be submitted to the Board Secretary prior to final consideration of the matter.

It is requested that individuals who require the services of a translator contact the Board Secretary no later than the day preceding the meeting. Whenever possible, a translator will be provided. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the meeting you wish to attend. (323) 881-8291 or (323) 881-8295

SI REQUIERE SERVICIOS DE TRADUCCION, FAVOR DE NOTIFICAR LA OFICINA CON 72 HORAS POR ANTICIPADO.

The meeting is recorded, and the recording is kept for 30 days.



# LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM AUTHORITY

2525 Corporate Place, Suite 200  
Monterey Park, California 91754  
(323) 881-8291

PATRICK J. MALLON  
EXECUTIVE DIRECTOR

August 21, 2014

Board of Directors  
Los Angeles Regional Interoperable Communications System ("LA-RICS") Authority (the "Authority")

Dear Directors:

## EXTENSION OF FUNDING PLAN OPT OUT PERIOD

### **RECOMMENDED ACTION**

It is recommended that your Board:

1. Extend the deadline for submission of written notices of withdrawal from November 24, 2014 to November 24, 2015; and
2. Delegate Authority to the Executive Director, or his Designee, to notify Authority Members pursuant to Section 7.01 of the LA-RICS Joint Powers Agreement, of the extended notice of withdrawal date; and
3. Delegate Authority to the Executive Director, or his Designee, to notify Authority Members who have withdrawn to date, of the extended date; and
4. Designate Tuesday, November 24, 2015, as the deadline for Authority Members to submit written notice of withdrawal from the Authority, if that is their governing body's determination.

### **BACKGROUND**

On May 28, 2014, your Board approved adoption of the Funding Plan, delegating authority to the Executive Director to notify Authority Members of the same, and setting November 24, 2014 as the deadline to submit written notice of withdrawal from the Authority. While Section 5.01 of the JPA Agreement provides for a minimum 35 day period for withdrawal after the Funding Plan is adopted, your Board agreed six-months would allow Authority Member staff sufficient time to evaluate, prepare analysis and appear before respective governing bodies for presentation of the adopted Funding Plan.

At the July 10, 2014 Board Meeting, Board Member Alexander requested placing a discussion item on the Board's agenda to address the total number of members withdrawing to date, as well as the reasons for withdrawal. At the August 7, 2014 Board Meeting, the Executive Director communicated to the Board that uncertainty associated with an increase in cost factors following the Member withdrawal period prior to completion of final system design of the Land Mobile Radio (LMR) and system acceptance of the Public Safety Broadband Network (PSBN), was a common reason given when Members took action to withdraw from the Authority. A meeting was held with less than a quorum of the members of the Board on August 14, 2014, in order to further discuss how to alleviate membership concern regarding these uncertainties, and encouraging membership continued participation. Attendees concluded extending the period of withdrawal following system acceptance of the PSBN, as well as system design of the LMR, would encourage continued member participation, allowing time for member questions to be addressed as the system is built out.

If withdrawal of Authority Members or the amounts of grants that are available to fund the LMR and PSBN projects impacts the financing structure of the Funding Plan, your Board can consider whether it is prudent to revise the Funding Plan. If a revised Funding Plan is adopted by your Board which substantially increases the financial obligations of the Members, then any Member so affected will have a further right to withdraw within a period no less than 45 days after the adoption of the revised Funding Plan, as set by your Board.

## **AGENDA ITEM 2**

**FISCAL IMPACT/FINANCING**

The outstanding balance of the Broadband Technologies Opportunities Program (BTOP) required cash match was included in FY 2014-15 Adopted Budget, as an advance by the County of Los Angeles, thus providing for 100% of the required cash match. It is anticipated that a significant portion of the cash match can be offset through purchase of required User Equipment. Member Funded JPA Operation costs through November 24, 2015 will be advanced by the County of Los Angeles. Extending the period of withdrawal through November 24, 2015, will provide Members sufficient time to budget for respective LA-RICS expenses due effective November 25, 2015.

**FACTS AND PROVISIONS/LEGAL REQUIREMENT**

The Authority's counsel has reviewed the recommended actions.

Respectfully submitted,



PATRICK J. MALLON  
EXECUTIVE DIRECTOR

c: Counsel to the Authority



# LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM AUTHORITY

2525 Corporate Place, Suite 200  
Monterey Park, California 91754  
(323) 881-8291

PATRICK J. MALLON  
EXECUTIVE DIRECTOR

August 21, 2014

Board of Directors  
Los Angeles Regional Interoperable Communications System Authority (the "Authority")

Dear Directors:

## **APPROVE AMENDMENT TWELVE FOR PROJECT MANAGEMENT SERVICES WITH JACOBS PROJECT MANAGEMENT CO.**

### **SUBJECT**

Board approval is requested to 1) authorize an amendment to the project management services contract with Jacobs Project Management Co. ("Jacobs") increasing the Maximum Contract Sum by \$2,011,080; and 2) delegate authority to the Executive Director to execute an amendment to allow Jacobs to engage in certain additional environmental work to conduct a CEQA statutory exemption analysis and deliver a Notice of Exemption(s), prepare a NEPA-compliant Supplemental Environmental Assessment (EA); and increase the level of monitoring compliance efforts to accommodate the compressed construction schedule for the Public Safety Broadband Network ("PSBN") and adjust the staffing plan accordingly.

### **RECOMMENDED ACTION**

It is recommended that your Board:

1. Approve an increase to the Maximum Contract Sum in a not to exceed amount of \$2,011,080, which will increase the Maximum Contract Sum amount from \$30,486,265 to \$32,497,345.
2. Delegate authority to the Executive Director as follows:
  - a. Finalize and execute Amendment No. 12 with Jacobs, substantially similar to Attachment A;
  - b. Approve an addition to the contract's scope of work to allow Jacobs to engage and perform certain additional environmental work for the PSBN including, but not limited to, conducting a statutory exemption analysis and delivering a CEQA Notice of Exemption(s), preparing a NEPA-compliant Supplemental EA, and increasing the level of environmental compliance monitoring efforts to accommodate the compressed construction schedule as set forth in the scope of work, and adjust the Staffing Plan accordingly.

## **BACKGROUND**

On March 29, 2012, your Board authorized the Executive Director to execute the contract with Jacobs for project and construction management services for the Maximum Contract Sum of \$20,871,260, to provide project and construction management services for the voice and data telecommunications system, comprised of an LMR System and a Long Term Evolution ("LTE") broadband mobile data system. Since that time, the Executive Director has exercised delegated authority granted by your Board on March 29, 2012, to execute Amendment Nos. 1, 2, 4, 5, 6, 8, and 10 to the Jacobs contract, which moved staff hours from subsequent phases of the Jacobs contract to the Preliminary Phase (Phase 0) in order to allow for Jacobs' performance of certain work necessary during the Preliminary Phase.

On July 11, 2012, your Board authorized the Executive Director to execute Amendment No. 3 to the Jacobs contract which increased the Maximum Contract Sum by \$1,546,933 in order to add additional scope of work for the complete rewrite process of the Authority's Request for Proposals ("RFP") for the LA-RICS systems which included, but was not limited to, providing technical and functional specification input to ensure consistency with industry standards, preparing new RFPs, providing RFP/Proposal compliance analysis, and participating in the negotiation process.

On October 3, 2013, your Board authorized the Executive Director to execute Amendment No. 7 to the Jacobs contract which increased the Maximum Contract Sum in order to (a) separate the Scope of Work into two separate projects, the LMR System and Long Term Evolution ("LTE") broadband mobile data system (or Public Safety Broadband Network); and (b) add additional work to Phase 1 of the LMR System and the Preliminary Phase of the LTE System project, which work was not previously contemplated and constituted new scope. The additional work included, but was not limited to, staff support for public relations outreach, environmental services support and additional administrative support required by the parallel LMR and LTE projects.

On March 6, 2014, your Board authorized the Executive Director to execute Amendment No. 9 to the Jacobs contract to include an addition to the scope of work to allow Jacobs to engage and perform certain environmental work including, but not limited to, preparing and delivering a CEQA-compliant Environmental Impact Report ("EIR") and a NEPA-compliant Environmental Assessment ("EA") as well as performing various biological and cultural resource surveys and reports, under Phase 1 for the Land Mobile Radio System ("LMR System") and adjust the Staffing Plan accordingly.

On June 5, 2014 your Board authorized the Executive Director to execute Amendment No. 11 to the Jacobs contract which increased the Maximum Contract Sum by \$306,600 in order to perform certain Cultural Resources review and support work to aid the Authority in securing the necessary environmental clearances/approvals from the State Historic Preservation Office ("SHPO") and the National Telecommunications and Information Administration ("NTIA") to proceed with the build out of the Authority's PSBN.



### **PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION**

The purpose of the recommended action is to increase the scope of services under the Jacobs contract in order to engage Jacobs to conduct a CEQA statutory exemption analysis and prepare and deliver a CEQA Notice of Exemption(s) and a NEPA-compliant EA for the PSBN. This work is needed to assess the use of additional sites that may remedy a design issue related to the PSBN. The Authority is well into the design phase of the PSBN. During this phase, it became apparent that there was line of site and connectivity issues that resulted in the need to change the design, replacing certain sites and modifying design parameters at other sites. These redesign efforts will require additional CEQA statutory exemption analysis to be performed and a supplemental EA be prepared, as these redesign efforts were not previously contemplated in the original EA submitted to NTIA.

Additionally, Jacobs will be tasked with preparing and delivering a NEPA-compliant Environmental Assessment (EA) and enhance the level of environmental compliance monitoring effort to accommodate the heavily compressed construction schedule of the PSBN. As your Board is aware, the PSBN project schedule is very aggressive due to the pending Broadband Technology Opportunities Program (BTOP) grant spending deadline of September 30, 2015. In order to meet this aggressive deadline, the Authority has assessed its need, and has determined it to be necessary to seek additional environmental support from Jacobs.

Therefore, it is critical that the Authority engage Jacobs immediately to perform the CEQA statutory exemption analysis and prepare the supplemental EA and related environmental work for the PSBN as the Authority is fast approaching the BTOP grant spending deadline.

### **FISCAL IMPACT/FINANCING**

The amendment will increase the Maximum Contract Sum under the Jacobs contract by \$2,011,080, which will increase the Maximum Contract Sum amount from \$30,486,265 to \$32,497,345.

All contract costs related to the services rendered under this Amendment No. 12 will be reimbursed by the BTOP grant. This grant is fully funded by the Department of Commerce National Telecommunications and Information Administration ("NTIA").

### **FACTS AND PROVISIONS/LEGAL REQUIREMENT**

The Authority's counsel has reviewed the recommended action.

**AGREEMENTS/CONTRACTING**

Upon your Board's approval of the recommended action, on behalf of the Authority, the Executive Director will have authority to execute a contract amendment with Jacobs, substantially similar to the attached form, to incorporate revisions contemplated in the recommended action.

Respectfully submitted,



PATRICK J. MALLON  
EXECUTIVE DIRECTOR

PJM:ms

c: Counsel to the Authority

Attachment

**AMENDMENT NUMBER TWELVE TO  
AGREEMENT FOR CONSULTANT SERVICES**

**Recitals**

This Amendment Number Twelve ("Amendment No. 12") is entered into by and between the Los Angeles Regional Interoperable Communications System Authority ("Authority") and Jacobs Project Management Co. ("Consultant"), effective as of August \_\_\_\_\_, 2014, based on the following recitals:

Authority and Consultant have entered into that certain Agreement for Consultant Services, dated as of March 29, 2012 (together with all attachments and appendices thereto, all as amended prior to the date hereof, the "Agreement").

The Agreement has been previously amended by Amendment Number One, effective as of May 15, 2012, to engage Consultant to perform certain work under Preliminary Phase, which was originally contemplated under Phase 1, and to adjust the Consultant's Staffing Plan accordingly, all as further described in Amendment Number One.

The Agreement has been previously amended by Amendment Number Two, effective as of June 4, 2012, to engage the Consultant to perform certain work under Preliminary Phase, which was originally contemplated under subsequent phases, and to adjust Consultant's Staffing Plan accordingly, all as further described in Amendment Number Two.

The Agreement has been previously amended by Amendment Number Three, effective as of July 2, 2012, to engage the Consultant to perform certain work under Preliminary Phase, which was not originally contemplated and constituted new scope, and to adjust Consultant's Staffing Plan, resource level effort, and additional costs accordingly, all as further described in Amendment Number Three, which increased the Maximum Contract Sum by \$1,546,933 from \$20,871,260 to \$22,418,193.

The Agreement has been previously amended by Amendment Number Four, effective as of September 21, 2012, to engage the Consultant to perform certain work under the Preliminary Phase, which was originally contemplated under subsequent phases, and to adjust Consultant's Staffing Plan accordingly, all as further described in Amendment Number Four.

The Agreement has been previously amended by Amendment Number Five, effective as of January 1, 2013, to reallocate the level of effort between LTE Project activities and LMR Project activities, and to adjust Consultant's Staffing Plan accordingly to reflect the reallocation of such levels of effort, all as further described in Amendment Number Five.

The Agreement has been previously amended by Amendment Number Six, effective as of May 31, 2013, to include work for Negotiation and Outreach activities for both the

LMR and LTE Systems, to reallocate the level of effort between the Preliminary Phase and subsequent phase activities for the LMR and LTE Systems, and to adjust Consultant's Staffing Plan accordingly to reflect the reallocation of such levels of effort, all as further described in Amendment Number Six.

The Agreement has been previously amended by Amendment Number Seven, effective as of September 5, 2013, to separate the Scope of Work into two separate projects, defined as the LMR System project and the LTE System project, to make revisions to the Agreement as necessary to reflect such two separate projects, to add additional work to Phase 1 of the LMR System project and the Preliminary Phase of the LTE System project, which was not previously contemplated and constituted new scope, and adjust Consultant's Staffing Plan, associated resource levels of effort, and additional cost accordingly to reflect two LA-RICS projects, all as further described in Amendment Number Seven, which increased the Maximum Contract Sum by \$4,889,427 from \$22,418,193 to \$27,307,620.

The Agreement has been previously amended by Amendment Number Eight, effective as of December 12, 2013, (a) to include work to deliver certain LTE Project Description documents for 232 project sites in the LTE System, (b) to reallocate the level of effort between the Preliminary Phase and Phase 1 activities for the LTE System, and (c) to adjust Consultant's Staffing Plan accordingly to reflect the reallocation of such levels of effort, all as further described in Amendment Number Eight, which corrected the Maximum Contract Sum to \$27,317,585.

The Agreement has been previously amended by Amendment Number Nine, effective as of March 11, 2014, to (a) perform certain environmental work including but not limited to, preparing and delivering a CEQA-compliant Environmental Impact Report (EIR) and a NEPA-compliant Environmental Assessment (EA) as well as perform various biological and cultural resource surveys and reports for the LMR Project work under the LMR Project Phase 1, System Design, as described in the Scope of Work, (b) adjust the Appendix A-2 (Staffing Plan) accordingly, and (c) increased the Maximum Contract Sum to account for the scope of work in the amount of \$2,862,080 from \$27,317,585 to \$30,179,665.

The Agreement has been previously amended by Amendment Number Ten, effective May 14, 2014, to reallocate the level of effort between phases of the LMR Project, and to adjust Appendix A-2 (Staffing Plan) accordingly to reflect the reallocation of such levels of effort.

The Agreement has been previously amended by Amendment Number Eleven, effective as of June 5, 2014, to (a) perform certain Cultural Resources environmental work as described in the Scope of Work due to the Authority's increased need for environmental support, and (b) to adjust Appendix A-2 (Staffing Plan) accordingly to reflect such levels of effort; and (c) increase the Maximum Contract Sum to account for the increase in scope of work in the amount of \$306,600 from \$30,179,665 to \$30,486,265.

Authority and Consultant desire to further amend the Agreement to a) perform certain environmental work for the LTE System project including, but not limited to, (1) conducting a CEQA statutory exemption analysis and prepare and deliver a Notice of Exemption, (2) preparing and delivering a supplemental NEPA-compliant Environmental Assessment (EA); and (3) increase the level of environmental compliance monitoring efforts to accommodate the compressed construction schedule; all of which is described in the Scope of Work due to the Authority's increased need for environmental support, (b) to adjust Appendix A-2 (Staffing Plan) accordingly to reflect such levels of effort; and (c) increase the Maximum Contract Sum to account for the increase in scope of work in the amount of \$2,011,080 from \$30,486,265 to \$32,497,345.

This Amendment No. Twelve is authorized under Paragraph 40 of the Agreement.

NOW THEREFORE, in consideration of the foregoing recitals, all of which are incorporated as part of this Amendment No. 12, and for other valuable consideration, the receipt and sufficiency of which are acknowledged, Authority and Consultant hereby agree as follows:

1. Capitalized terms used herein without definition (including in the recitals hereto), have the meanings given to such terms in the Agreement, as amended by this Amendment No. 12. Unless otherwise noted, section references in this Amendment No. 12 refer to sections of the body of the Agreement, as amended by this Amendment No. 12.
2. Section 3.1 is deleted in its entirety, and is replaced by the following:
  - 3.1 In consideration of the performance by Consultant in a manner satisfactory to Authority of the services described in Section 2 above, including receipt and acceptance of such work by Executive Director of the Authority or such person's designee (hereinafter called "Director"), Authority agrees to pay Consultant a maximum not-to-exceed sum of Thirty-Two Million, Four Hundred Ninety-Seven Thousand, Three Hundred Forty-Five Dollars (\$32,497,345).
3. Attachment A (Scope of Work), is deleted in its entirety, and is replaced by the Attachment A (Scope of Work) to this Amendment No. 12 and incorporated by this reference.
4. Appendix A-2 (Staffing Plan) to Attachment A (Scope of Work) to the Agreement is hereby deleted in its entirety, and is replaced by Appendix A-2 (Staffing Plan) attached to this Amendment No. 12, and incorporated by this reference.
5. This Amendment No. 12 shall become effective as of the date identified in the recitals, which is the date upon which:
  - 5.1 An authorized officer of Consultant has executed this Amendment No. 12;

- 5.2 The Authority's Board of Directors has authorized the execution of this Amendment No. 12;
- 5.3 Los Angeles County Counsel has approved this Amendment No. 12 as to form; and
- 5.4 The Executive Director of the Authority has executed this Amendment No. 12.
6. Except as expressly provided in this Amendment No. 12, all other terms and conditions of the Agreement shall remain the same and in full force and effect.
7. Consultant and the person executing this Amendment No. 12 on behalf of Consultant represent and warrant that the person executing this Amendment No. 12 for Consultant is an authorized agent who has actual authority to bind Consultant to each and every term and condition of the Agreement, as amended by this Amendment No. 12, and that all requirements of Consultant to provide such actual authority have been fulfilled.
8. This Amendment No. 12 may be executed in one or more original or facsimile counterparts, all of which when taken together shall constitute one in the same instrument.
9. This Amendment No. 12 shall be governed by, and construed in accordance with, the laws of the State of California applicable to agreements made and to be performed within that State.

\* \* \*

**AMENDMENT NUMBER TWELVE TO  
AGREEMENT FOR CONSULTANT SERVICES**

IN WITNESS WHEREOF, the parties hereto have caused this Amendment No. 12 to be executed on their behalf by their duly authorized representatives, effective as of the date first set forth above.

LOS ANGELES REGIONAL  
INTEROPERABLE COMMUNICATIONS  
SYSTEM AUTHORITY

JACOBS PROJECT MANAGEMENT CO.

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

Patrick J. Mallon  
Executive Director

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

Issam Khalaf  
Vice President  
West Division PMCM

APPROVED AS TO FORM FOR THE LOS  
ANGELES REGIONAL INTEROPERABLE  
COMMUNICATIONS SYSTEM  
AUTHORITY:

RICHARD D. WEISS  
Acting County Counsel

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

Truc L. Moore  
Senior Deputy County Counsel

**ATTACHMENT A**  
**SCOPE OF WORK**

**1. INTRODUCTION**

Jacobs (Consultant) will work within the framework established by the Los Angeles Regional Interoperable Communications System (LA-RICS) Authority (JPA or Authority) and in accordance with the activities and services surrounding each phase of program deployment for both the LMR and LTE projects. Consultant will provide experienced and dedicated resources to coordinate the planning, designing, developing, supplying, fabricating, constructing, installing, testing, deploying, commissioning, training, and maintenance necessary for successful completion of the LMR and LTE projects. The projects will be delivered using a turnkey method that will involve the LMR System and LTE System Contractors to perform required site design and construction as well as design and installation of the LMR and LTE Systems.

The Consultant will assist the Authority in making plans, projections, and decisions for its communications needs based on full life-cycle planning steps. The Consultant will also assist in developing criteria to determine when a technology refresh of any aspect of the LA-RICS LMR or LTE Systems should be considered. Many of the steps required for a technology refresh need to be coordinated (subscribers, network, backhaul) but some can be performed independently. The Consultant will help the Authority to consider costs, including labor, out-of-pocket expenses, and the trade-off analysis of continuing to modify and maintain the legacy system(s) versus moving to new system(s) at the right time in the future, when developing this criteria.

The Consultant will visit completed and in-progress LA-RICS LMR and LTE transmission sites to evaluate the LMR System and LTE System Contractor's construction methodologies and practices in the conduct of the LA-RICS site builds. Further, they will assist in ensuring that the LMR System and LTE System Contractor's follow construction industry best practices in the construction of Authority LMR and LTE Facilities.

**2. SCOPE OF WORK**

Consultant shall be the Authority's Project Manager for the LA-RICS LMR and LTE projects. The work to be performed by the Consultant under this Agreement will be assigned by the Authority pursuant to one or more Notices to Proceed issued under and in accordance with Section 2 (Consultant's Services) of the Agreement. The work to be performed by the Consultant includes all work as described in this Scope of Work, to the extent they are not inconsistent with Sections 2.1 and 2.2 below:

**2.1 Staffing Plan**

The Consultant's staffing plan is attached to this Scope of Work as Appendix A-2 (Staffing Plan). The Consultant will be required to periodically modify the staffing plan with the approval of the Authority throughout the duration of the Agreement to meet changing LA-RICS LMR and LTE project requirements. Any changes to the Consultant's staffing plan shall not result in an increase of the total number of labor hours approved by the Authority as part of this Agreement. At a minimum the Consultant's staff shall include the following:

- a. A Program Director who will serve as the Consultant's responsible point of contact for the Consultant's overall performance and compliance with the Agreement;
- b. A Program Manager who will (a) be responsible for planning and coordinating all work under the Agreement, (b) serve as the Consultant's primary liaison, (c) manage Consultant's staff, and (d) oversee the delivery of the LMR and LTE LA-RICS projects;
- c. A Senior Project Manager to oversee the delivery of the LMR System project;
- d. A Senior Project Manager to oversee the delivery of the LTE System project;
- e. At least one Systems Manager for the LMR System;



- f. At least one Systems Manager for the LTE System;
- g. A Document Control and administrative support staff;
- h. A Professional Project Scheduler;
- i. A Professional Cost Estimator;
- j. A Contract/Change Order Manager;
- k. An experienced Outreach Manager; and
- l. Technical Support Staff experienced in the design and implementation of wireless voice and data communications systems.

## **2.2 General Scope of Services**

The Consultant will manage the LA-RICS LMR and LTE projects in accordance with high professional industry standards. The Consultant will be responsible for a combination of essential project and construction management services with respect to the LA-RICS LMR and LTE projects, including, but not limited to, the following functions for each project:

2.2.1 Coordinate the planning, designing, developing, supplying, fabricating, constructing, installing, testing, commissioning, deploying and training for the successful completion of the LA-RICS project, including the LMR System and LTE System.

2.2.2 Develop program procedures for the management of funding authorizations, funding approvals, cost escalation, communications protocols, responsibility matrix, and records management for each project.

2.2.3 Prepare and manage project(s) budgets and schedules. This task includes, but is not limited to the following activities:

- a. Provide revenue and cash flow analysis for each project;
- b. Develop project phasing alternatives including cost models for each project;
- c. Prepare and/or review cost estimates and related cost and contingency analyses for each project;
- d. Prepare and/or review critical path method project schedules and related analyses for each project;
- e. Prepare and/or review resource-loaded project schedules for each project.
- f. Prepare, review, and update a total project cost estimate (TPCE) which includes: land acquisition costs, construction costs, programming/development, plans and specifications, consultant services fees, miscellaneous expenditures, jurisdictional approvals, and services provided by Authority staff for each project. The TPCE for each project shall be updated on a monthly basis; and
- g. Review change order requests and associated cost estimates for each project.

2.2.4 Review and assess the each LMR and LTE project's system architecture, design criteria and standards, and coordinate design technical reviews and resolution of technical issues. This task includes, but is not limited to the following activities:

- a. Review of architectural, technical, and engineering documents and studies for accuracy, constructability, compliance with project technical requirements, and value engineering;
- b. Assist in developing alternate/value engineering design solutions;
- c. Evaluate and make recommendations on changes in scope of work and prepare requests for change orders/amendments;
- d. Prepare authorization documentation including contract/agreement amendments and notices to proceed;
- e. Develop a Quality Assurance/Quality Control plan;

- f. Conduct quality control/quality assurance inspections and provide reports; and
- g. Manage, coordinate, and validate systems acceptance criteria;
- h. Coordinate the implementation of best management practices and, if applicable, CEQA Mitigation Monitoring and Reporting Program in LMR and LTE system construction documents.

2.2.5 Provide document control, administrative support, and information management for the LMR and LTE projects. This task includes, but is not limited to the following activities:

- a. Maintain a library for each project of “official” documents including all engineering/as-built documents, project correspondence, and contract documents. The library shall be delivered to the Authority at the completion of the contract. This library shall be available to the Authority for review throughout this contract;
- b. Safeguard all Authority and Member property, including proprietary and sensitive information;
- c. All documents to be stored in both hard copy and electronic formats.

2.2.6 Administer LMR and LTE project contracts, including, but not limited to, contracts with the LMR and LTE System Contractors and the environmental services consultants. This task includes, but is not limited to the following activities:

- a. Review the work of other contractors and consultants, certify percentage of work completed, and make recommendations on the approval of invoices for each project;
- b. Review consultants' and contractors' safety programs for compliance with all local, state and federal requirements and regulations;
- c. Assist in coordinating and preparing for consultants' and contractors' project status meetings and participate in same;
- d. Review and make recommendations on consultant and contractor(s) work product for compliance with LA-RICS project technical and contractual requirements;
- e. Evaluate and make recommendations on changes in scope of work and prepare requests for change orders, and contract/agreement amendments for each project;
- f. Track, review and make recommendations on contractor requests for information and submittals for each project; and
- g. Assist the Authority with the separate procurement of other contractors and consultants to perform other services relating to the LA-RICS project, including the preparation of a request for proposals, review of proposals, and implementation of the consultant’s resultant agreement.

2.2.7 Provide the Authority’s staff and Board of Directors with project reports for the LMR and LTE projects. This task includes, but is not limited to the following activities:

- a. Prepare and coordinate monthly project status reports which shall include a brief discussion of current activities being carried out; activities to be completed in the upcoming month; review and discussion of project schedule (actual vs. baseline); and review and discussion of the project budget including expenditures to date, and budget remaining, for each project;
- b. Provide risk analysis support, quality control audits, value analysis and constructability reviews for each project; and
- c. Prepare as-needed reports and materials for LA-RICS project executive staff and Authority's Board of Directors' meetings, and attend such meetings.

2.2.8 Work in a coordinated, cooperative manner with other entities involved in the LMR and LTE projects including Authority staff, other contractors and consultants, government representatives, and other stake

holders involved in the projects. This task includes, but is not limited to the following activities:

- a. Provide support in coordination of interagency and public involvement/consensus building, including the preparation of presentation materials, and making presentations;
- b. Develop and carry out a comprehensive strategic public relations plan including timelines, products and budget, for each project. This includes ability to work and communicate with public officials, local communities and government and professional organizations; and
- c. Coordinate work of other contractors and consultants performing similar public relations function under their respective contracts; and
- d. Identification, application, coordination, and acquisition of all required permits and approvals for construction of the LMR and LTE projects.

2.2.9 Provide telecommunication appraisal expertise for valuation on all match expenditure for grant funds for each project;

2.2.11 Ensure compliance with applicable rules and regulations. This task includes, but is not limited to the following activities:

- a. Ensure that the LMR and LTE System Contractors and other consultants comply with all Federal, California State, County, and local grant fund requirements, and monitor the LMR and LTE System Contractor's and consultants' compliance with same;
- b. Ensure the LMR and LTE System Contractors' adherence and compliance to the applicable federal, State and local laws, ordinances, regulations, rules, guidelines, directives, policies and procedures, including, but not limited to, Association Public-Safety Officials (APCO) Project 25 and building codes;
- c. Ensure that the LMR and LTE System Contractors adhere and comply with all Federal Communication Commission (FCC) rules and regulations; and
- d. Ensure that the LMR and LTE System Contractors adhere and comply with applicable standards and regulations pertaining to the Federal Communications Commission Waiver and subsequent Orders regarding the implementation of a nationwide broadband interoperable network in the 700MHz band.

2.2.12 Assist the Authority with site related activities for both the LMR and LTE projects. This task includes, but is not limited to the following activities:

- a. Assist in and coordinate activities relating to acquisition of rights to the LMR and LTE sites;
- b. Conduct preconstruction site analysis and planning for the LMR and LTE sites, including considerations for temporary utilities and structures, construction sequencing, construction site coordination, site infrastructure, construction-related traffic analysis, etc.;
- c. Coordinate LMR and LTE site activities with utility companies;
- d. Coordinate LMR and LTE site geotechnical testing and investigation services;
- e. Coordinate LMR and LTE environmental site assessments;
- f. Monitor LMR and LTE land surveying services; and
- g. Monitor LMR and LTE field engineering investigations, assessments, and reports;

2.2.13 Assist in environmental documentation preparation and processing in conformance with the CEQA and NEPA for both projects, including:

- a. Coordinate with consultant in charge of preparing CEQA/NEPA related studies for the LA-RICS LTE project;
- b. Monitor and report on best management practices and NEPA and CEQA mitigation measures (if any) to ensure compliance during LMR and LTE project implementation.

- c. Prepare and deliver a CEQA-compliant Environmental Impact Report (EIR) and NEPA-compliant Environmental Assessment (EA), as required, for the LMR project. The lead agency for the EIR will be the LA RICS JPA and the lead agency for the EA will be the Federal Emergency Management Agency (FEMA).
- d. Develop a draft project description for a Proposed Action based on input received from the Authority and/or the System Contractors.
- e. Develop technical reports to describe the existing environment and analyze potential environmental impacts for the EA/EIR.
- f. Perform biological surveys and prepare biological reports through the Design Phase of the LMR project, and support federal Endangered Species Act Section 7 consultation with USFWS, and Section 2081 and 2080.1 (California Fish and Game Code) consultation with CDFW.
- g. Prepare comprehensive reports including a biological assessment, biological technical report, and biological evaluation (for federal lands).
- h. Perform cultural resources surveys and prepare cultural resources reports and in support of SHPO and Native American consultation.

2.2.14 Coordinate project close-out activities including system acceptance and end-user training for both the LMR and LTE projects.

### **3. PROGRAM REVIEW AND VALIDATION**

The Consultant will conduct a series of mobilization interactive planning sessions with the JPA's Executive Director, and key LMR and LTE project personnel to focus on teambuilding, planning, organization, and project kick-off. These sessions will include consideration of stakeholder concerns, obtaining answers to relevant questions, and development of an understanding of roles in supporting other stakeholders. The sessions will be used to establish and document team alignment, roles, responsibilities, and expectations for both projects.

The Consultant's experts in project management, planning, funding, scheduling, and estimating will work with the Authority to address the LMR and LTE projects' unique challenges and begin drafting the Project Delivery Plan (PDP) for each project. Using initial work sessions as the starting point, the Consultant will develop a detailed PDP based on each project's goals and guided by a strategic total project implementation perspective for each project.

The Consultant will deploy the following methodologies and techniques to form a solid foundation for LMR and LTE project execution:

- a. Perform team building activities: team orientation, information sharing, establishing lines of communication
- b. Transfer existing project information/documentation to Consultant members
- c. Confirm project management goals and objective
- d. Verify the status of ongoing tasks and define critical issues
- e. Confirm lines of authority, organization, roles, and responsibilities
- f. Confirm budget and schedule status and funding/cash flow issues
- g. Engage in interactive planning to develop master schedule milestones
- h. Develop coordinated work plan with all major players
- i. Review and develop current project budget and estimates for roll-up into master budget

- j. Initialize project management control system
- k. Maintain customized, targeted QA/QC in every facet of the project
- l. Confirm, verify, and create a project-level communication plan
- m. Create and distribute the project-level document distribution plan

#### **4. PROJECT ADMINISTRATION SERVICES**

##### **4.1 Prepare and maintain Master Calendar and Meeting Minutes for the LMR and LTE projects**

The Consultant will prepare and maintain the master calendar for each of the LMR and LTE projects, which are key management and administrative control systems that are both proactive and reactive. Project master schedules are used to schedule and document significant events and maintain records on a weekly basis for all project meetings for each project. Minutes of these meetings are recorded and distributed to a designated list of participants. The Consultant will prepare meeting minutes for all meetings designated by the Authority both the LMR and LTE projects and use them to measure and document work progress, identify problems, and the required action(s) for resolution. Upon completing the LMR and LTE projects, these master project calendars, and the record of all meeting minutes for each project, shall serve as an audit trail of all major project events and milestones.

##### **4.2 Provide document control, administrative support, and information management for the LA-RICS LMR and LTE projects**

The Consultant will establish and maintain a records management system that will be a project management control system which will fully integrate all project documentation for both the LMR and LTE projects. The web-based systems will be controlled via a secured access availability based on an approved responsibility matrix and communication protocols.

The Consultant shall establish a project file index, for both the LMR and LTE projects, consistent with industry standards, and as approved by the Authority. Consultant shall implement the approved file indexes and maintain a physical record (hard copies) of all project-related documents and records for both projects. These shall be stored in a secured location approved by the Authority. Project documents and records shall be readily available to Authority staff upon request.

##### **4.3 Administer LA-RICS Project Contracts**

The Consultant will assist the Authority with the review all project related contracts/agreements, including but not limited to, contracts with both the LMR System Contractor and the LTE System Contractor, and the environmental services consultant, to determine applicability of the contractors' and/or consultant's scope of work with the overall intent of the LA-RICS projects, and to determine all contractually required deliverables. Working closely with the key stakeholders, the Consultant will determine which deliverables in each project require stakeholder review and/or approval. These review and approval cycles will be in the program-level project schedule and will include deliverables (for tracking) in the project management control systems for each project.

##### **4.4 Assist in environmental documentation preparation and processing in conformance with the CEQA and NEPA for the LTE project**

The Consultant will review the contract requirements of the Authority's environmental consultant and assist with the coordination of all LTE contract deliverables with the environmental consultant, working with the Authority to schedule review and comment periods for environmental documentation, review and provide comment to such environmental documentation, and ensure all comments are returned to the environmental

consultant and are incorporated in the final documents for the LTE project. The Consultant will assist the Authority and the environmental consultant as needed at public meetings required for approval of the LTE environmental documents. The Consultant will ensure that any routine and regular documents or reports (daily, monthly, by site) required by the contract for the LTE project are complete and submitted. Following approval of the environmental documents, the Consultant will ensure that the best management practices and, if applicable, the CEQA Mitigation Monitoring and Reporting Program is implemented by applicable parties as defined in the environmental documents, for the LTE project.

**4.5 Prepare the environmental documentation and ensure processing in conformance with CEQA and NEPA for the LMR project**

The Consultant is responsible for all phases and activities associated with the preparation and delivery of the NEPA-compliant Environmental Assessment (EA) and CEQA-compliant Environmental Impact Report (EIR) for the LMR project. Consultant will work with the Authority to schedule review and comment periods for environmental documentation with the LA-RICS Staff, and ensure that all relevant comments are incorporated in the final documents for, as necessary, for the LMR project. The Consultant will assist the Authority in conducting any public meetings that may be required for approval of the LMR environmental documents. The Consultant will ensure that any routine and regular documents or reports (daily, monthly, by site) required by the contract for the LMR project are complete and submitted. Following approval of the environmental documents for the LMR project, the Consultant will ensure that the best management practices and, if applicable, the CEQA Mitigation Monitoring and Reporting Program, is implemented by applicable parties as defined in the environmental documents, for the LMR project.

The Consultant will review and validate LMR and LTE Contractor(s) reports for Construction Management Activities (CMA), at all LMR and LTE sites where the LMR and LTE Contractors perform CMA analysis whether Biological or Cultural, and provide the Authority with periodic reports as to the LMR and LTE Contractor's performance during LMR and LTE site construction. These services include, but are not limited to, review of Contractor CMA reports and LMR/LTE site inspections to verify that the LMR and LTE Contractors are proceeding with construction in compliance with CMA requirements as outlined in the LMR and LTE System Contracts respectively.

**4.6 Prepare and maintain Project Reports and Records for the LMR and LTE projects**

Immediately after notice to proceed, as part of the Consultant's integration plan, they will work with the Authority's key staff to determine the content and regularity of project reports for both the LMR and LTE projects. The Consultant will use the approved communications plan to determine the distribution for drafts as well as final reports for each project. Monthly LMR and LTE project reports will be provide to the Authority with current and accurate information regarding the program master plans. These monthly reports for each project will include:

- a. A project budget analysis for each project describing the total project cost, actual expenditures to date, percent of budget spent to date, and budget remaining to complete the project. Identify any potential funding shortfalls and potential ways to mitigate them for each project.
- b. A project schedule analysis for each project describing activities completed to date, project percent complete, actual progress versus baseline schedule, upcoming project milestones, activities on the critical path, and activities to be completed in the upcoming month (look-ahead schedule).
- c. Future construction activities and early notification of potential operational impacts for each project that require coordination with the Authority
- d. Pending action items for each project

With the approval of the Authority, the monthly report can be a single report containing status of both the LMR and LTE projects.

These reports will track float changes in all project areas, flagging those areas where the available float is decreasing (indicating a lack of progress) or increasing (indicating exceeding planned progress) and identifying the factors causing the change. The monthly trend report assists in identifying problem areas before they become critical. Using this report the Consultant can provide a detailed explanation of the root cause(s) for a delay in any area, as well as recommended corrective plan of action, for each project.

The Consultant will prepare these monthly reports in two forms:

- a. An executive summary, that functions as a periodic newsletter of construction progress for project stakeholders and LA-RICS stakeholders
- b. Analysis of the LMR System Contractor's and LTE System Contractor's recovery schedule (if applicable).
- a. A detailed report for each project

The executive summary will be a graphic representation of the current and accurate status of each program's master plan. The detailed report supporting the summary of each project discusses all aspects of the program(s) master plan and the scope, schedule, and budget of current capital projects. The methodology used in preparing these reports for each project will be based on integrating information from various project databases or control systems such as:

- a. Schedule information (completion status, milestone, critical path, and baseline schedule).
- b. Total project cost estimates and financial summaries.
- c. Project cash flow.
- d. Submittals.
- e. Requests for information.
- f. Requests for quotation.
- g. Critical issues

#### **4.7 Provide and maintain an Electronic Document Control**

The Consultant will provide a Document Control Plan and project file index which will define control procedures for all project-related documentation for each project. They will establish, manage, set-up, and implement a fully integrated, image-based document and retrieval system, for both the LMR and LTE projects, allowing for the archiving, control and security of all documents, records, reviews, correspondence, and writings, which shall provide the capability for expediting the transmittal of project-related construction documents. Consultant document control staff will maintain the accuracy of these databases through both daily and weekly updates.

The document control system for each project will:

- a. Enable the management of millions of records and retrieval in seconds
- b. Store consultant services agreements and contracts for easy retrieval and review
- c. Shares documents with colleagues while protecting confidential information
- d. Allow for e-mailing or faxing files with the click of a mouse
- e. Provide an easy way to share documents with other offices or take them on the road
- f. Tackle paper flow and information overload
- g. Provide legal documentation

The Consultant will ensure all hardware and software purchased meets the specific requirements to support the proposed electronic document control system and other established programs. They will work with the

Authority to ensure the management information system for both projects possesses adequate capacity to manage the requirements, such as a shared local area network, electronic image-based document control system, and communications such as e-mail, computerized faxing, and internet access.

**4.8 Provide and maintain an Issues Tracking System for each project**

The Consultant will employ a web based Issues Tracking System such as Oracle Contract Manager as an issues tracking tool for each project to provide:

- a. Effective communication and accountability from which project performance can be evaluated
- b. Built-in modules for intuitive form routing and tracking tools to responsible parties
- c. Allows project executives to focus on managing projects, not paper

**5. SCHEDULE AND COST MANAGEMENT**

**Develop program procedures for the management of funding authorizations, funding approvals, cost escalation, communications protocols, responsibility matrix, and records management for the LMR and LTE projects.**

The Consultant will develop a Project Delivery Plan (PDP) for each of the LMR and LTE projects consisting in part of program procedures for implementation and management of all tasks. Consultant will develop the PDP using industry best practices and will then customize it to meet the specific needs of the LMR and LTE projects. They will meet with key Authority personnel to better understand existing protocols for funding authorization approvals and communication for each project.

The Consultant will use this information to create program procedures, a communication plan, and a responsibility matrix with flow charts for each project.

The Consultant will track and manage cost escalation by using internal cost data for similar programs/projects as well as published industry cost information to establish trending plans. They will use these trending plans to determine the appropriate contingency levels for the LA-RICS LMR and LTE project cost models.

The Consultants' records management system will be a project management control system that will fully integrate all project information for each project. This will be a web-based system and will have secured access availability based on an approved responsibility matrix and communications protocols.

**5.1 Prepare and manage project budgets and schedules**

The Consultant will develop program-level budgets and schedules for both the LMR and LTE projects. The master schedules will be a roadmap to project completion. Working with the information gathered at the interactive planning session, the Consultant will work one-on-one with the critical project stakeholders to develop a master schedule for each project that details every activity required to complete the project. This includes preconstruction activities including CEQA/NEPA studies, design milestones, third-party contracts, equipment and furnishings procurement and delivery, and JPA requirements, construction phasing, training, testing and commissioning activities, and review and approval checkpoints for each project.

Based on criteria established for the prospective projects, the Consultant's estimators will query the historical database for similar type projects and use factors such as location and escalation to benchmark each project to the center point of construction. They will use data from each of these projects to develop a cost model or budget for the new LMR and LTE projects based on a set of assumptions in the planning documents. In certain situations or geographies, they will perform market surveys to determine current market conditions such as



labor costs and availability, market saturation as it relates to the bidding climate, and any special factors to be considered for the local market.

Consultant shall review the LMR System Contractor's and LTE System Contractor's baseline schedules and make recommendations to the Authority whether to approve or reject the schedule for each project. Once the baseline schedules are established and approved, the Consultant will ensure that the Authority receives monthly schedule updates from the LMR System Contractor and the LTE System Contractor. The Consultant shall review the monthly schedules updates and make recommendations to the Authority whether to approve or reject the updated schedules for each project. The Consultant shall provide review comments to the LMR System Contractor and the LTE System Contractor to be incorporated into subsequent updates. Schedule review comments for each project shall include a discussion on the following:

- a. Overall contractual project duration (calendar days) and any changes to the contractual substantial completion date. Include a discussion of any change orders which may have extended the contractual substantial completion date.
- b. Discussion regarding the addition/deletion of any activities, calendar changes, changes in the relationship between activities and/or activity lags, changes in the description activities, calendar changes, changes in the duration of activities, number of activities with "actual start" dates, and number of activities with "actual completion" dates.
- c. A critical path analysis for each of the LMR and LTE projects.

#### **5.1.1 Establishment of a Baseline Schedule**

The Consultant will establish a baseline schedule with the LMR System Contractor and the LTE System Contractor that is fair to the Authority and LMR and LTE Systems Contractors and is an accurate representation of how each Contractor will actually build the LMR and LTE projects. For each project, the schedule will include consideration of, but not be limited to:

- a. An understanding of critical tasks to be performed
- b. An understanding of project schedule and budget objectives
- c. Consensus of basic schedule architecture, software usage and administrative steps for the balance of the project
- d. Review of the telecommunications system contractor's detailed baseline schedule
- e. Examination of logic durations, constructability, and flow of work laid out in the schedule, including non-implementation/construction restraints and activities (i.e. permits, procurement strings, submittal reviews and approvals, other contractor activities, end user activities, and restrictions)
- f. Analysis of cost and manpower allocations by trade and examination of cumulative distribution
- g. Consideration of input from major subcontractors and vendors, thorough the telecommunications system contractor, in development and approval of the schedule.

#### **5.1.2 Key schedule management activities for the LMR and LTE projects will include, but not be limited to:**

- a. Short interval schedules, such as two- and three-week look-ahead schedules
- b. Updating the schedule monthly
- c. Preparing float trend analysis on each update (refer to the float chart on the following page)
- d. Generating pay applications from the updated schedule
- e. Evaluating the LMR System Contractor and LTE System Contractor's recovery schedules and identifying mitigation measures needed whenever progress is delayed
- f. Identifying mitigation measures needed for the recovery or when changes to the contract scope of work have the potential to impact the schedule

- g. Coordinating all construction activities with particular attention to coordination with various contractors working on different bid packages
- h. Documenting, verifying, and reporting progress monthly
- i. Performing technical analysis for all the changes submitted and/or subsequent claims made by the telecommunications system contractor
- j. Conducting negotiation of all time impact settlements

### **5.1.3 Integration of the System(s) with a Work Breakdown Structure/Chart of Accounts**

To make the LMR and LTE projects controls process comprehensive to all program aspects, the Consultant will integrate each individual system component into an overall project control system for each project. One of these integrated components is the work breakdown structure (WBS). Consultant will work closely with the Authority to determine and define the best WBS for each project, and determine, for each project, whether projects' structure should be shaped by funding source, bid packages, program phase, or a hybrid of system/structure. These project structures will provide detailed definition to contract packages and major budget elements, and define segregated budgets across the whole organization, such as owner's costs, PM/CM Consultant, and the LMR and LTE Systems Contractor's cost assignments.

### **5.1.4 Use of Each System as a Management Tool**

Each WBS entry, for each project, will have a project definition sheet that provides the WBS description, set of functional requirements the projects must satisfy, the allowed budgets (by design or construction phase for each active party), and overall project(s) schedule. Together this matched data provides a tool to baseline and track performance against a pre-determined set of metrics.

### **5.1.5 Provide telecommunication appraisal expertise for valuation on all match expenditure for grant funds**

The grant application and approval process for each project involves developing investment justifications based on technical or operational needs, and also developing a financial analysis that provides approval authorities with the confidence that all costs and benefits have been defined and quantified. This analysis is especially important when the applicant must produce matching funds to qualify. One of the key aspects of developing a cost analysis is creating a viable set of assumptions, particularly in the areas of technology, finance, and operations. For a particular appraisal, the Consultant will work with the Authority's Executive Director to identify and quantify these assumptions for each of the LMR and LTE projects. Using an in-house cost estimating tool, the Consultant will provide a life-cycle cost estimate for the applicable LMR and/or LTE Systems based on actual contract information balanced against industry information, as well as the Consultant's experience with comparable systems. The estimated costs for each project may include:

- a. Radio equipment and control
- b. Backhaul equipment
- c. Interoperability equipment
- d. Subscriber units
- e. Antennas
- f. Dispatch consoles and other subsystems needed to interconnect to the radio network
- g. Real property, site access agreements, and site modifications
- h. Microwave upgrade/extensions
- i. Project management
- j. Annual maintenance
- k. First year operational costs
- l. Projected 10-year capital costs

- m. Projected 10-year operational costs

## **6. QUALITY ASSURANCE/QUALITY CONTROL**

The size and complexity of two simultaneous LMR and LTE LA-RICS projects demand an exacting approach to quality control, risk management, and customer satisfaction. To ensure that the LMR and LTE Systems Contractors deliver the best and most comprehensive solutions for the Authority, the Consultant will employ proven processes for QA/QC and Risk Management services across all project phases for each project. To ensure the Consultant achieves Authority expectations and goals, the Consultant will use a client satisfaction process to measure their team's performance against mutually agreed-upon key performance indicators for each project. The following paragraphs outline the approach to these critical areas.

- a. The Consultants team members will have performed QA/QC specialized functions on statewide radio deployments in the U.S.
- b. The Consultant will use the industry's most comprehensive collection of radio technology engineers and analysts available
- c. The Consultant of QA/QC process experts will have performed similar services for projects similar to the LA-RICS project
- d. High-level team management involvement will be used throughout the LA-RICS project
- e. The Consultant's complete and operational radio systems performance approach will:
  - i. Provide a QA/QC plan that encompasses the QA/QC process, reviews, methodology, resources, and objectives of the QA/QC program
  - ii. Apply best practices analytical tools to verify and validate the telecommunications system contractor's approach and estimations
  - iii. Provide a detailed, actionable recommendations for system and/or program modifications or improvements

The intent and benefit of a well-defined QA/QC process for each project is to verify and validate the specific work products of each project phase. The Consultant will develop a QA/QC plan that supports Authority expectations of quality from the LMR and LTE System Contractors.

### **6.1 Verify Technical Compliance**

The Consultant will assess and report on the LMR System Contractor's and LTE System Contractor's adherence to the technical requirements of the LMR and LTE projects during all project phases. These requirements include the functional, operational, standards compliance, performance, coverage/capacity, and interoperability requirements of the LA-RICS program. Reports will be generated on a quarterly basis for each project, with ad-hoc reports generated for compliance actions that require immediate response.

## **7. RISK MANAGEMENT**

The Consultant will implement a comprehensive risk tracking and mitigation program for each project that will:

- a. Identify and evaluate potential risks to the LMR and LTE projects
- b. Identify risk mitigation strategies and activities for each project
- c. Report on findings and recommendations for each project

In addition, the Consultant will closely monitor the LMR and LTE Systems Contractors' project plans to identify potential risks to the timely completion of project milestones and tasks and to the adherence to the project schedule for each project. The Consultant will provide reports with findings and recommendations on a quarterly basis for each project, or as required.

The Consultant will employ these two key risk management functions:

- a. Risk *assessment*, where the Consultant and Authority staff will determine the risks in each project and identify plans to execute should the risk materialize.
- b. Risk *control*, where the Consultant and Authority staff will take a proactive role to minimize and mitigate identified risks in each project before they occur.

The Consultant will develop and maintain, with input from the Authority, a list of potential risks for each project. Potential risks will be included for all participating organizations, including the LMR System Contractor and the LTE System Contractor, all subcontractors for each project, participating local jurisdictions, and the JPA in areas such as:

- a. Critical path analysis – dependencies and impact of non-achievement
- b. Schedule realities and anomalies – realistic durations compared to recent past histories
- c. Design – comprehensive and in sync with industry best practices
- d. Production limitations – ability to meet schedules and prioritize new orders
- e. Weather – impact of adverse weather conditions
- f. Past history with specific products being fielded – issues and anomalies
- g. Construction and vendor delays – track record of performance and vendor delivery
- h. Organization – organizational structure that supports requirements and changes
- i. Third party – regulatory issues, permitting processes, environmental concerns, etc.
- j. Public relations – impact of political wind shifts, perceptions, and communications

### **7.1 Dispute Resolution**

For each of the LMR and LTE projects, the Consultant will ensure that design documents are well coordinated, easy to read, complete, and as error-free as possible. To achieve this, the Consultant will conduct thorough design and constructability reviews for each project with a multi-disciplined A/E team. The Consultant will conduct reviews at design milestones, often at the conclusion of each design phase, at intermittent completion milestones, or via over-the-shoulder reviews for specific technical needs. The Consultant will ensure:

- a. That design documents prepared by the telecommunications system contractor comply with state and local codes.
- b. Building systems are energy efficient.
- c. The design accounts for technology needs.

The Consultant will work in cooperation with the Authority to develop a checklist approach to document review for each of the LMR and LTE projects.

The Consultant will attempt to resolve issues in each project as early as possible and at the lowest management level. During the initial phase of the LMR and LTE projects, the Consultant will conduct an interactive planning session to ensure all project details and needs are discussed early and openly. The Consultant will develop a defined project execution plan for each project with established key milestone dates for each phase, identifying key interface points, identifying the project critical path and setting coordination procedures and soliciting the LMR and LTE Systems Contractors' buy in to the overall plans. It will establish a protocol identifying how Contractor issues will be addressed. The Consultant will subsequently monitor each project for potential issues and work quickly to resolve them while impacts are minimal. If the Consultant observes or suspects a problem exists that could lead to a claim in either project, they will:

- a. Evaluate the potential risk
- b. Explore alternatives for resolving the problem

- c. If required, prepare supplemental guidance to clarify contract requirements
- d. Begin preparing a potential claim file to capture all correspondence, reports, meeting minutes, and other documents relevant to the issue
- e. Proactively address and fairly resolve telecommunications system contractor's issues as they arise so that they don't become claims
- f. If a claim is filed, assist with the resolution with expertise, lessons learned, and strategy development
- g. Initiate a change order, if appropriate, to compensate a contractor for changed conditions

## **8. PROJECT CLOSEOUT**

### **Coordinate System Acceptance and End-User Training for each LMR and LTE Project**

For each LMR and LTE project, the Consultant will determine the project closeout requirements during the program's integration phase. The Consultant will work closely with key stakeholders, especially maintenance and facility personnel, to understand their requirements for closeout, including warranty requirements, start-up, training, and usual and ongoing maintenance. The Consultant will include these requirements in the project management controls system for each project, as well as on the projects' master schedule. The Consultant will provide a comprehensive issues tracking system to provide visibility and definition to outstanding deficiencies and an integrated project schedule for both the LMR and LTE projects. The Consultant will coordinate acceptance activities for each project with the Authority (including their program managers, execution of a work acceptance certificate) and applicable jurisdictions to ensure all LMR and LTE Contractor obligations are complete. This includes:

- a. Obtaining jurisdictional approvals of the site design documents
- b. Completing all contract milestones
- c. Obtaining work acceptance certificates for substantial/final completion of LMR system acceptance, LTE system acceptance, and final telecommunications system acceptance

## **9. STATEMENT OF WORK BY PHASES**

Both the LMR and LTE projects in the LA-RICS program will be executed in the following six phases:

**Preliminary Phase (Phase 0)** – Project Startup (LMR and LTE)

**Phase 1** – System Design (LMR and LTE)

**Phase 2** – Site Construct and Site Modification (LMR and LTE)

**Phase 3** – Supply Telecommunications System Components (LMR and LTE)

**Phase 4** – System Implementation (LMR and LTE)

**Phase 5** – System Maintenance (LMR and LTE)

### **9.1 PRELIMINARY PHASE 0 – LMR AND LTE PROJECT STARTUP**

Upon the effective date of Consultant Agreement and a Notice to Proceed (NTP), and prior to the execution of the LMR System Contractor's contract or the LTE System Contractor's contract, Consultant shall fully perform the Preliminary Phase tasks and deliverables in this Section 9.1 for both the LMR and LTE projects.

#### **9.1.1 Document Management System**

Consultant shall establish a document management system for both the LMR and LTE projects in both electronic and paper documents format.

#### **9.1.2 Cost Modeling**

Consultant will assist the Authority in developing a project cost model for each project that considers grant funding allocations, proposed/required Member contributions, proposed/required Member/subscriber/affiliate

fees, timelines and cash flow requirements by phase. Consultant shall create a baseline cost of the LMR and LTE System Contractors' scope of work, identifying costs by phase, project schedule(s), and migration plan(s). Consultant shall work with the Authority and other relevant entities to create reports for each project analyzing the optimization of LA-RICS project funding/grant funding with the LA-RICS projects schedules.

### **9.1.3 Project Delivery Plan (PDP)**

Consultant shall create a Project Delivery Plan draft for both the LMR and LTE projects, subject to subsequent revision under Section 3.0 above.

### **9.1.4 LMR System Analysis**

Consultant shall prepare an analysis regarding the LMR system addressing

- a. The potential wastage if the Authority were to implement the LMR system on the T-Band frequencies (470 to 512 MHz) and then migrate the LMR system to 700-800 MHz band frequencies or other hybrid network prior to the T-Band frequencies being auctioned under HR 3630
- b. The feasibility of the Authority forgoing implementation of the LMR system on the T-Band frequencies, and rather implementing the LMR system on 700-800 MHz band frequencies or other hybrid network.

Regarding item a. of this task, issues to be addressed include:

- a. How much of the T-Band design would be reusable?
- b. What is the breakage/throwaway?
- c. In a notional design, how many sites would be needed for a 700-800 MHz band frequency, or some hybrid thereof, LMR system?
- d. Where could the Authority co-locate the 700-800 MHz band frequency sites with the LTE system sites?
- e. If the Authority could co-locate some number of 700-800 MHz band frequency sites with LTE system sites, how many frequencies would the Authority need?
- f. Is the migration from T-Band frequencies to 700-800 MHz band frequencies a significant forklift effort?
- g. What percentage of what the Authority deployed on the T-Band frequencies will require replacement (breakage)?

Regarding item b. of this task, issues to be addressed include:

- a. How many sites would be needed?
- b. What is the estimated cost?
- c. What is the total cost of ownership?
- d. In a notional system, what are the number of frequencies the Authority would need in order to build-out a system to cover Los Angeles County at the coverage and capacity specifications noted in Request for Proposals?
- e. Does the Authority or its Members have those frequencies now?
- f. How long will it take to build out the network?
- g. What else is possible?
- h. What other frequencies could the Authority use?
- i. How could the Authority use the analog overlay?
- j. Could the Authority use the LTE system sites for 700-800MHz deployment and enhance frequency reuse?
- k. What would coverage and capacity look like depending on the design?

### **9.1.5 LMR Site Assessments**

As part of the project descriptions, the Consultant will perform detailed site assessments for all 109 identified LMR sites. The project descriptions will include site drawings showing construction boundaries, footprints of towers and shelters, and disturbance areas. It will also provide tower and shelter details, including quantity, height, size, foundation, lighting, number and type of antennas, and amount of grading and clearing necessary. Since the documents will be used as a reference for the environmental analysis, the Consultant will employ specialized technical support staff, experienced in the requirements, environmental impact, and documentation of radio tower site construction, to ensure the accuracy and completeness of all information.

The Consultant will work closely with the Authority to schedule, coordinate, and review these documents to ensure they accurately describe the systems and site components at each of the 109 LMR sites, and that they provide the necessary information for the environmental CEQA and NEPA review process. Also, the Consultant will complete site visits and inspections for all existing 109 LMR sites to ensure the accuracy of the LMR site database as provided in the RFP and supporting documents. The Consultant will perform visual site surveys to include, but not be limited to, the following elements:

- a. Structural analyses of existing towers and other antenna support structures.
- b. Equipment inventory.
- c. Access road conditions.
- d. General site conditions.
- e. Physical availability of surrounding land space.
- f. Perimeter security.
- g. Commercial power.
- h. Emergency power.
- i. AC and/or DC power.
- j. Equipment shelter design.
- k. HVAC.
- l. Grounding and lightning protection.
- m. Tower FAA obstruction lighting and painting.
- n. Fire suppression and prevention.
- o. Telco service.
- p. Site safety radio frequency radiation compliance.
- q. Grounding and variances from specific vendor standards.
- r. Transmission line support structures.
- s. Waveguide and dry air systems.
- t. Civil and earthwork performance criteria.
- u. Nearby obstructions that may impact microwave paths and mobile radio coverage.
- v. Implementation of best management practices and CEQA/NEPA mitigation measures (if any).

The result of LMR Site Assessment task will be a complete and comprehensive LMR site database of all 109 LMR sites. The site database will be resident in the SharePoint system for easy access by the Consultant, the Authority, and subsequent Telecommunications System Contractor(s).

### **9.1.6 LMR Hybrid System Analysis**

Consultant shall prepare an analysis regarding the feasibility of a potential hybrid LA-RICS LMR system consisting of:

- a. The use of the County-owned UHF T-Band frequencies for a County-wide digital trunked voice radio system DTVRS for the agencies which currently use that frequency band.

- b. The use of the seventy (70) 700 MHz County-licensed frequencies to provide County-wide coverage for migrating selected UHF T-Band subscribers away from that spectrum in preparation for the eventual requirement to vacate the T-Band spectrum.
- c. The use of the County-owned UHF T-Band spectrum to provide NMDN (narrowband data, 25 KHz) County-wide coverage until LTE services are available from the National Public Safety Broadband Network or a compatible network implemented by the Authority.
- d. The use of the existing County-licensed 800 MHz spectrum (64 channels) for the Analog Conventional Voice Radio System (ACVRS).

The areas to be included in this analysis include the following, for both the 700 MHz and UHF T-Band components:

- a. Coverage
- b. Capacity
- c. Spectrum use including high-level channel planning for simulcast planning and channel reuse
- d. Initial high-level identification and mitigation of interference issues
- e. High-level implementation and migration considerations
- f. Rough order-of-magnitude costs for the LMR and microwave equipment, infrastructure, and vendor-related implementation/project management

This task does not constitute a network design, but is rather a feasibility analysis. Preliminary and detailed analyses will be conducted by the future LMR System Contractor during Phase 1 design activities, and reviewed by the Consultant.

Assumptions from the initial LMR Feasibility Study (section 9.1.5 above) will be used in this hybrid network feasibility analysis, including the areas of user requirements, technical and functional specifications from the 2011 Telecommunications Services RFP, spectrum ownership, currently awarded grant funding, and site availability. No consideration will be given to determining the timing of the availability of additional 700/800 MHz spectrum, the availability of LTE capacity, legislative or policy changes related to the T-Band giveback process, or the availability of any funds related to H.R. 3630. Channel requirements per site will be developed using existing system use information and the minimum channel count of 10 per site defined in the RFP will not be used; rather, the channel counts per site will be based on a high-level assessment of requirements based on current use and projected growth as outlined in the RFP.

Additional scope of work in this section 9.1.6, and as a follow-on to completed activities for the LMR Hybrid System Analysis as outlined above, will include an interference analysis of two (2) 700 MHz guard band channels.

As a result of the enactment of HR 3630 on February 22, 2012, LA-RICS is tasked to look for additional radio spectrum to construct a UHF T-band/700 MHz hybrid voice and data network. LA City has contributed thirty-four (34) 700 MHz frequencies. Two MHz of 700 MHz spectrum was also identified for potential use. These two are the guard band frequencies 768-769 MHz and 798-799 MHz which separate the broadband from the narrowband frequencies, and are not currently allocated for use by FCC rules. The Authority plans to apply for a waiver to the FCC rules to utilize these frequencies in support of its Hybrid network.

The Authority has contacted FCC counsel to begin the waiver process for these frequencies. The added scope to the Jacobs Scope of Work (restated herein) is as follows:

- a. Provide a needs analysis demonstrating and justifying that other spectrum is not available.
- b. Provide an interference analysis to ascertain that the use of the spectrum as identified above is possible



without significant interference to adjacent services.

- c. Complete the FCC Form 605 License Application, articulating the technical parameters for use of the spectrum.

Consultant will utilize subject matter experts skilled in the areas of RF frequency coordination, frequency interference engineering, knowledge of FCC rules, and familiarity with the waiver and licensing process. Additionally, Consultant will generate technical supporting documentation in the form of interference contours. This scope is anticipated to take no longer than six (6) weeks from issuance of notice to proceed to completion.

#### **9.1.7 RFP Rewrite (LMR and LTE)**

Consultant will support the RFP Rewrite process for both LMR and LTE, in the following areas:

- a. LTE and LMR network specification
- b. Site and constructability considerations
- c. Overall program rollout expectations
- d. Design, deployment, test and acceptance processes and specification
- e. Phasing and schedule considerations
- f. Overall site and network requirements generation

The Consultant will perform the following minimum program support activities:

- a. Provide input with respect to technical and functional specifications for consistency with industry standards and client requirements.
- b. Provide input with respect to LMR and LTE RFP(s) for inconsistencies in technology, methodology, and performance.
- c. Provide input with respect to the review of LMR and LTE RFP(s) to ensure consistency with the proposed evaluation and scoring methodology and process.
- d. Provide input with respect to the review of LMR and LTE RFP(s) to validate that proposals can be verified through future acceptance testing.
- e. Provide input with respect to the review of boilerplate terms, conditions, and instructions for appropriateness and applicability to the goals and objectives of the LA-RICS initiative.
- f. Provide input with respect to the review of service level/performance guarantee requirements to validate that they can be achieved.
- g. Provide input with respect to the review for unnecessary risk items that may be ascertained in proposer(s) proposals.

The Deliverable for this 9.1.8 RFP Rewrite task is the Summary Report of activities performed in support of LA-RICS RFPs for both the LMR and LTE Systems resulting in a LMR System Contractor RFP and a LTE System Contractor RFP that will each be the basis for LMR and LTE Contractor(s) selection to perform the design, deployment, test, and acceptance for the LA-RICS program.

#### **9.1.8 RFP/Proposals Compliance Analysis**

Consultant will perform the RFP Proposal Compliance Analysis for both the LMR and LTE proposal(s), specifically in the areas of LMR and LTE network specifications, site and constructability considerations, and with respect to specific Proposer(s) proposed deployment decisions and infrastructure development considerations for each

project. The Consultant will perform the following minimum proposal compliance activities for each project:

- a. Review LMR and LTE RFPs to validate proposer(s) knowledge of LA-RICS requirements for each project.
- b. Identify key areas of LMR and LTE RFP response to be used for compliance analysis for each project.
- c. Develop a format for the Compliance Report that will be specific to each proposer(s) proposal for both the LMR and LTE proposals.
- d. Develop analytical processes to ensure consistency across compliance report sections, and aid in consistency in the evaluation and scoring processes for each project.
- e. Review specific technical sections of each proposer(s) proposal to validate compliance with RFP requirements and expectations for each project.
- f. Review each proposer(s) response for both projects to validate that the required services and functions can be delivered operationally by the proposer(s), and that their proposed solution is viable and cost effective for each project.
- g. Provide input with respect to review of the LMR and LTE RFPs to validate proposer(s) approach, cost, and acceptance criteria for the LMR and LTE network deployments for each project.
- h. Review transition and implementation plans for reasonableness, adequacy, and compliance with LMR and LTE RFP considerations for each project.
- i. Review and prepare an analysis of each proposer(s) proposal response for each project, indicating the strengths and weaknesses of each proposer(s) responses with respect to LMR and LTE RFP requirements.
- j. Identify major concerns and risks with each proposer(s) response for each project.

Additionally, Consultant will provide LMR and LTE Subject Matter Expertise (SME) support to the Evaluation Team, to include the following tasks for each project:

- a. Provide clarifications to the Evaluation Team, as needed, with respect to proposer(s) proposed technology and infrastructure solutions for each project.
- b. Provide guidance to the Evaluation Team, as needed, with respect to industry best practices for LMR and LTE network deployment and site/civil construction for each project.
- c. Assist the Evaluation Team, as needed, to fully understand the nature and intent of proposer(s) proposed technology and infrastructure solutions for each project.
- d. Closely coordinate with the Evaluation Team across all components of the Evaluation process for each project.
- e. Provide expert advice and recommendations to the Evaluation Team, as needed, to help the team understand not only the written solutions proposed by the proposer(s), but also the nuances of the proposer(s) proposal(s) with respect to design, deployment, test, cutover, and acceptance activities for each project.
- f. Drawing upon the Consultants' expertise in the public safety market, provide reasonable estimations of constructability and network deployment success with respect to the proposer(s) proposed solutions and activities for each project.

- g. Generally, assist the Evaluation Team with all aspects of the LMR and LTE evaluations with respect to each section of proposer(s) proposal(s) for each project, but not to include actual scoring activities.

The Deliverables for this 9.1.9 Proposal(s) Compliance Analysis tasks are the LMR and LTE Summary Compliance Reports for each proposer(s) of activities performed in response to the LA-RICS RFP(s)/Addendum(s). The Compliance Analyses will form the basis for the Proposal evaluation process for each project, specifically with respect to the design, deployment, test, and acceptance of the LA-RICS program. Additionally, written clarifications, recommendations, comparisons, and statements of expert witness, as provided to the Evaluation Team, will be compiled as part of the Deliverables for these tasks.

#### **9.1.9 Negotiations**

Consultant shall participate in and advise the Authority during negotiations of both the LMR and LTE Systems contract documents to ensure that the Authority obtains the best terms and conditions, as accurately and effectively memorialized in the agreements for each project.

Consultant shall participate in and advise the Authority during negotiations with the selected LMR and LTE Systems Contractors to assist with identifying/clarifying Contractor(s) scope of work with respect to radio network deployment and site constructability, terms and conditions (including the justification for claimed exceptions), network design, deployment, test and acceptance, and all components and aspects of proposer(s) proposals(s) that would be the subject of negotiations for each project. Consultant will specifically support these LMR and LTE tasks in the following areas:

- a. Assess LMR and LTE Contractor(s) proposal(s) with respect to terms and conditions as pertains to radio network deployment, site assessment, construction, testing, and acceptance for each project.
- b. Assess LMR and LTE Contractor(s) proposal(s) for site network technology applicability, construction schedules, methodologies, processes, and plans for each project.
- c. Assess LMR and LTE Contractor(s) proposal(s) processes for telecommunications equipment deployment, site upgrades, builds, over-builds, modifications, etc. for each project.
- d. Assess LMR and LTE Contractor(s) proposal(s) for compliance with industry LMR, LTE, and construction standards, and radio deployment and construction best practices for each project.

Additionally, the Consultant will perform the following services in support of LMR and LTE Contractor negotiations:

- a. Participate in the development of the initial negotiations strategy for each project.
- b. Develop what-if scenarios and devil's advocate positions for possible negotiation(s) positions for each project.
- c. Identify weak and strong points in the LMR and LTE Contractor(s) negotiation(s) positions.
- d. Provide 'best current practices' for key negotiation areas based on recent experiences in other negotiation processes.
- e. Review proposed LMR and LTE Contractor(s) schedule(s) to validate the viability of the proposed program schedule for each project.
- f. Review component and network test procedures for reasonableness for each project.

- g. Review payment/acceptance terms and conditions with respect to the adequacy of milestones and program performance metrics for each project.
- h. Review and provide comparative pricing for services and equipment based on other similar negotiations efforts for each project.
- i. Validate amount and applicability of equipment proposed to ensure adequacy of program deployment and performance for each project.
- j. Provide QA/QC of Contractor(s)-proposed microwave routes, coverage, and service guarantees to identify weak areas for each project.
- k. Review Terms and Conditions for areas that might impact design, implementation, testing, or acceptance criteria for each project.

The Deliverables for these 9.1.9 Negotiations tasks are the Summary Report of activities performed in support of LA-RICS LMR and LTE Contractor(s) negotiations(s) resulting in a LMR System Contractor contract and a LTE System Contractor contract.

Once negotiations for each project are completed, Consultant will also provide an additional Deliverable of preparing and providing a written analysis and recommendation of the respective LMR and LTE System being considered for award by the Authority. Such analysis is anticipated to be used and/or included in the board letter to the Authority's Board of Directors recommending award of a contract to the selected LMR System Contractor and the LTE System Contractor. Consultant's analysis will set forth (1) the specifics of each of the Systems being considered for award, (2) whether, in the Consultant's opinion, each such System will meet the technical and operational needs of the Authority and the Authority's members, and (3) the Consultant's technical recommendation for award of each of the LMR and LTE Systems. The sufficiency of such analysis will be reviewed and approved by the Authority.

#### **9.1.10 Outreach**

The Consultant will provide outreach support activities to the Authority for the purpose of informing and advising the local community, local public safety agencies, and Authority Members in the following program areas for each of the LMR and LTE projects:

- a. Provide an overall project description and anticipated program timelines for the LMR and LTE projects.
- b. Provide and maintain the master file of LA-RICS presentations, and keep presentation materials current and up to date.
- c. Outline infrastructure development and construction, and the impact of such work on local jurisdictions and communities for each project.
- d. Provide information and support for public dissemination of environmental assessments, as may be originated by either the environmental consultant or the Consultant, including providing LMR and LTE site assistance to the Authority for each project.
- e. Provide analysis to the public and affected Authority Members regarding the expected capital expenditure and operations/maintenance costs of the LMR and LTE Systems.

- f. LA-RICS brochure and marketing material preparation for each project.
- g. Assist with development of timelines specific to the work to be performed for each affected Authority Member and/or City, so targeted communities know what to expect from the LMR and LTE projects.
- h. Provide a LA-RICS Fact Sheet to include common questions along with answers for each project.
- i. Assist with prioritizing follow-up meetings for each project with cities and public safety agencies.
- j. Prepare a marketing packet for meetings with City officials regarding Site Access Agreements for each project.

The Consultant will provide coordination services for local outreach meetings and attend such meetings as desired and requested by the Authority for each project.

The Consultant will provide other outreach services and/or activities to assist with specific environmental issues that may be identified and requested by the Authority for each project.

Although commenced in the Preliminary Phase, outreach activities may extend over various phases of each project.

The Deliverables for these 9.1.10 Outreach tasks are presentations, marketing materials, and fact sheets, as well as other work product generated from these 9.1.10 Outreach tasks.

#### **9.1.11 Environmental Support**

For the LTE project, in Phase 0 of that project, the Consultant will provide best practices analysis to include Biological, Archeological, and Botanist services to assist and validate the Environmental Consultant's analysis that environmental documentation is prepared and submitted as stipulated in CEQA and NEPA guidelines. These validation activities will result in specific review of all environmental documentation provided by the Environmental Consultant. These reviews will be provided to the Authority weekly, as they occur, through edits/modifications to documents and recommendations to the Authority regarding the process, schedule, and deliverables for the environmental certification process for the LTE project.

The Deliverables for these LTE-PH0-9.1.11 Environmental Support activities are the environmental documents themselves.

Additionally, in support of the LTE construction effort, the consultant will provide environmental construction compliance monitors, including at least one senior biologist to oversee and coordinate the activities of the LTE Contractor's environmental compliance monitors. Duties will include:

- a. Review of LTE Contractor-prepared environmental compliance management plan (ECMP)(may also be known as mitigation monitoring compliance reporting plan or similar).
- b. Site inspections at LTE construction sites to verify ECMP compliance by LTE Contractor.
- c. Coordination with LTE Contractor environmental compliance monitors
- d. Coordination with appropriate Authority staff.
- e. Coordination with federal and state regulatory or land management agencies, as appropriate to support environmental compliance at construction sites.

Compliance monitoring leads are required to support an anticipated 72-hour per week construction schedule.

LTE deliverables for this Phase 2 effort will at a minimum be Weekly Compliance Monitoring Reports.

#### **9.1.12 Project Descriptions**

For each of the 232 LTE sites, Consultant will provide a detailed Project Description of the LTE Project that provides information on the activities that will be undertaken by the Authority at the sites, including but not limited to the following information for each LTE site:

- a. Confirm location of site boundaries, including aerial and topographic representations showing those boundaries as required for analysis under CEQA and NEPA .
- b. Purpose and needs.
- c. General description of the LTE Project's technical, economic, and environmental characteristics as required for analysis under CEQA and NEPA review, as well as identifying existing structures on site.
- d. Incorporation of all Monopole types that could be considered for use at an individual site (disguised, undisguised, rooftop, facility attached, modified flag pole, etc.)
- e. Incorporation of all types of lighting that could be considered for use on each Monopole considered.
- f. Incorporation of a general description of the type and extent of proposed trenching and excavation expected to occur.
- g. Incorporation of a description of the time of day work and days per week work is expected to occur and work schedule.
- h. Incorporation of estimates for duration of construction, the number of truck trips, and the type and duration of use of construction equipment/machinery that is assumed to be used.
- i. Incorporation of generalized description of infrastructure development expected to be required for project implementation.
- j. Incorporation of Construction Management Requirements (as defined in the LTE System Contract) proposed for implementation at each site.

The Deliverables for these 9.1.12 Project Descriptions are the Project Description documents for each of the 232 LTE sites that will be provided to the LTE Contractor following LTE Contractor contract execution for confirmation by such LTE Contractor.

LTE deliverables for this Phase 0 at a minimum will be:

- a. LTE-PH0-9.1.7 LTE RFP Rewrite Summary Report
- b. LTE-PH0-9.1.8 LTE Proposals Compliance Analysis Reports
- c. LTE-PH0-9.1.9 LTE Negotiations Summary Report; Written Analysis and Recommendation to Authority Board

- d. LTE-PHO-9.1.10 Outreach Presentations, Marketing Materials, and Fact Sheets
- e. LTE-PHO-9.1.11 Environmental Documents Review Reports
- f. LTE-PHO-9.1.12 Project Description documents

**9.2 PHASE 1 – LMR AND LTE SYSTEM DESIGN**

Early in the design phase for each project, the LMR and LTE Systems Contractors will prepare detailed Project Description documents that will describe the LMR System and LTE System respectively. The Consultant will work closely with the Authority and the LMR and LTE Systems Contractors to schedule, coordinate, and review these documents to ensure they accurately describe the systems and site components, and provide the necessary information for the environmental CEQA and NEPA review process for each project.

The LMR and LTE project descriptions will include site drawings showing construction boundaries, footprints of towers and shelters, and disturbance areas for each project. It will also provide tower and shelter details, including quantity, height, size, foundation, lighting, number and type of antennas, and amount of grading and clearing necessary. Since the documents for each project will be used as a reference for the environmental analyses, the Consultant will employ specialized technical support staff, experienced in the requirements, environmental impact, and documentation of radio tower site construction, to ensure the accuracy and completeness of all information for each project.

The Consultant will conduct a Constructability/Design Review for each of the LMR and LTE projects which will include review for compliance of rules, regulations, and codes. The Consultant will document and track any compliance issues found during the review process for each project and send the non-compliance issues to the A/E of record for correction. The Consultant will confirm compliance/correction of the issues either in a subsequent submission or through review of the documents for each project.

The Consultant understands that no system acquisition actions will be authorized for either the LMR or the LTE projects until the Phase 1 system design process is complete and associated environmental documentation is approved for each project respectively. Therefore, this task will commence as soon as possible after the LMR and LTE system(s) contracts are awarded in order to expedite the environmental CEQA and NEPA processes and reduce the risk of project schedule delays for each project.

**9.2.1 Review Detailed Design Documents**

The Consultant’s vision for delivering each of the LMR and LTE systems design review services will be based on:

- a. Applying experienced personnel with extensive public safety communications technology experience
- b. Working within a structured quality management system that includes the JPA-approved processes, milestones, and checklists that the Consultant has successfully tested and implemented on similar projects

The Consultant will employ a combination of experienced personnel, coupled with the use of best practice quality management processes, to provide a comprehensive understanding and articulation of the LMR system design and LTE system design in each project respectively. The methodology for Phase 1 system design is depicted below and in the following sections.

**9.2.2 System Design Methodology**

Key elements of the design review activities include planning, scheduling, and coordinating preliminary design

reviews (PDR) and detailed design reviews (DDR) with the Authority and the LMR System Contractor and the LTE System Contractor respectively, scheduling key milestones within the project master schedule for each of the LMR and LTE projects, and an independent assessment of the LMR System Contractor's and the LTE System Contractor's detailed design specifications. The Consultant will review all technical documentation for accuracy, constructability, and value engineering for each project. The evaluation of system specifications will consist of the following elements:

- a. Requirements traceability – LMR System Contractor's and the LTE System Contractor's design specifications must be inclusive and comply with all requirements outlined in the final system performance criteria and environmental documents for each project.
- b. Allocation of requirements – Each required functional element of the design specifications for both the LMR and LTE projects must be allocated to a system element that can be verified through factory, field, and acceptance testing.
- c. Specification verification – Key performance elements should be independently evaluated and verified compliant with system performance criteria for each project.
- d. Risk assessment – Based on the technologies specified for each of the LMR and LTE projects, the Consultant will identify high-risk areas and develop mitigation strategies for the Authority's review and approval.

For the design and subsequent phases for each of the LMR and LTE projects, the Consultant will work with the Authority to create a requirements traceability matrix (RTM) for each project which will separate each documented LMR System and LTE System requirement into a distinct tracking item. Using the RTM, the Consultant will monitor the project and ensure that functional, operational, performance, and user requirements are addressed throughout the planning, design, implementation, and testing phases of each of the LMR and LTE projects.

Design review activities for each subsystem of the LMR System and the LTE System will include a detailed evaluation of the following elements, as well as other elements that may be identified in the early planning with Authority staff:

- a. Overall architecture and its feasibility within the entire system of systems for each project
- b. Adherence to P25 standards and guidelines for the LMR project
- c. Compliance with all federal, California State, County, and local fund requirements, rules, regulations, guidelines, directives, policies, and procedures for each project
- d. Compliance with applicable FCC rules and regulations, including the 700 MHz waiver requirements for each project
- e. Compliance with CEQA and NEPA regulations for each project
- f. Verification of coverage, capacity, growth potential, and throughput for each project
- g. Antenna designs for each project
- h. Frequency/channel plans for each project
- i. FCC licensing for each project
- j. Interfaces and features for each project
- k. Interoperability to existing systems and backhaul networks for each project
- l. Backhaul network design, capacity/throughput analysis, microwave path analyses, fiber connectivity, redundancy, IP routing and addressing for each project
- m. Reliability, fault tolerance, and scalability for each project
- n. Network security and encryption for each project
- o. Consoles for the LMR project
- p. Logging recorder for the LMR project



- q. System management and monitoring for each project
- r. Inventory and maintenance tracking system for each project
- s. Testing plans including factory (staging), component, integration, performance, and acceptance test plans for each project
- t. Cutover plans for impact on operations; parallel operation on reuse sites for each project
- u. Maintainability for each project
- v. Disaster recovery plans for each project
- w. Interference, particularly in the case of the LMR project, in simulcast mode.
- x. Subscriber functionality for each project
- y. Local and environmental regulation compliance for each project
- z. Hardware, software, and services parts list to ensure no missing or extra items for each project
- aa. General compliance to each of the LMR System Contractor and LTE System Contractor contracts and risks to future change orders for each project
- bb. LMR System Contractor's and LTE System Contractor's value engineering plans for each project

The Consultant will evaluate the detailed design of the LMR system network Subsystems, which will include the P25 digital trunked voice radio system (DTVRS), the analog conventional voice radio system (ACVRS), and the Los Angeles Regional Tactical Communications System (LARTCS) and narrowband mobile data network (NMDN). The Consultant will similarly evaluate the LTE system detailed design and Subsystems for that project.

The Consultant understands the incumbent challenges of designing two new regional systems that must not only leverage existing infrastructure, but also accommodate interoperability among disparate systems and over varying terrain for each of the LMR and LTE network initiatives. For the LMR project, the Consultant will review the DTVRS design specifications for compliance to its stand-alone performance requirements and its interoperability with regional P25 (ICIS and Riverside County) and non-P25 (Orange and San Bernardino County) systems, as well as state agencies such as the California Highway Patrol and federal agencies such as the FBI.

### **9.2.3 Verify Coverage and Capacity**

For each of the LMR and LTE projects, the Consultant will provide independent verification services for key network performance criteria such as coverage and capacity. The Consultant understands that the Authority has requested that the LMR System and LTE System Contractors supply copies of their coverage software to the LA-RICS project team for use throughout the project.

The Consultant is familiar with a number of vendor-specific and other industry coverage modeling tools for both the LMR and LTE networks. Should the LMR and/or LTE System Contractors furnish copies of their coverage software to the Consultant, the Consultant will be able to operate and leverage the software to meet any LA-RICS coverage prediction requirements, within the terms and conditions of the Agreements with the LMR System Contractor and the LTE System Contractor. Where either the LMR System Contractor or the LTE System Contractor does not make their coverage modeling tool available to the Consultant, the Consultant will provide independent verification of coverage and capacity using other industry-approved modeling tools, as necessary to provide the Authority validation that the Contractor(s) coverage and capacity meet the technical specifications of their Agreement.

In all cases, and for each of the LMR and LTE projects, the Consultant will evaluate coverage and system performance by adhering to guidelines and recommendations outlined in the TIA publication, TSB-88. This document is an industry-accepted and widely used reference for radio frequency coverage modeling and system

performance validation.

The Consultant will use a comprehensive network design toolset to independently verify the LMR System Contractor's and LTE System Contractor's performance predictions. The design tool set shall include the following modules:

- a. A complete coverage analysis tool
- b. A high-resolution mapping tool
- c. A reliable network capacity analysis tool
- d. A system-wide interference analysis tool

The network design toolset shall provide microwave design/path planning for backhaul design verification for each of the LMR and LTE Systems. This will facilitate point-to-point and end-to-end performance analyses by modeling the paths in detail, taking into consideration both urban (building) and terrain clutter. In addition to LMR system design and analysis, the Consultant will also perform LTE system design and analysis. The Consultant will perform the following tasks related to both the LMR and LTE Systems:

- a. Recommend ideal radio site candidates
- b. Evaluate coverage propagation
- c. Analyze uplink and downlink rates for user equipment within coverage area
- d. Analyze and mitigate potential interference

#### **9.2.4 Design Review Activities**

a. The Consultant's Phase 1 design activities will depend on the number and level of design reviews proposed by the LMR and LTE System Contractors.

The Consultant recognizes that due to the size and scope of the LA-RICS program, there could be multiple PDR activities for each of the LMR System and LTE System reviews, depending on how the Authority contracts with the LMR System and LTE System Contractors. The Consultant will adjust their design review activities to accommodate the Authority approved final schedule for each project.

As part of the overall risk assessment and mitigation process for each project, the Consultant will create a master punch list independent from the LMR System Contractor's and LTE System Contractor's lists. The master punch list for Phase 1 in each project will be based on the Requirements Traceability Matrix (RTM) and will be used in subsequent phases to track construction, radio system implementation, and testing deficiencies for each project. The master punch list for each project will include, but is not limited to:

- a. A complete description of the deficiency
- b. Which section of the RTM or test procedure the deficiency is related to (as applicable)
- c. Target correction date
- d. Actual correction date
- e. Scheduled re-test date (if applicable) and results
- f. Assignment of responsibility
- g. Resolution

During design review activities for both the LMR and LTE projects, the Consultant will identify high-risk areas and work with the Authority to require the LMR System Contractor and the LTE System Contractor to develop alternatives to targeted aspects of the design solutions.

To meet the objective in providing the most cost-effective LA-RICS solution, the Consultant will evaluate procurement and implementation costs for each of the LMR and LTE System designs proposed by the LMR System and LTE System Contractors. Their analysis methodology will include system modeling and providing budgetary cost estimates for baseline and alternative design solutions. Cost estimates are based on the Consultant's extensive knowledge and estimates will consider the following costs for each project:

- a. LMR System and LTE System equipment and control
- b. Core and backhaul network equipment
- c. Subscriber units
- d. Acquisition and placement of towers and shelters
- e. AC and DC power systems
- f. HVAC
- g. Backup generator systems replacement or upgrade
- h. Site acquisition and development
- i. Permitting
- j. Delivery, staging, and other testing costs
- k. Project management, engineering, and service fees
- l. Life-cycle maintenance
- m. Contingency

For each of the LMR and LTE projects, the Consultant will coordinate and participate at each PDR and DDR presented by the LMR System Contractor and the LTE System Contractor. They will establish exit and entrance criteria for each of the reviews and work with the Authority to determine when those criteria are met, opening the gate for the Contractor to go to the next design step in the prescribed design process.

Once all design specifications are reviewed and risks, alternatives, and cost estimates established as part of the PDR and/or DDR processes, the Consultant will prepare a design analysis and recommendations report for each project and present it for Authority approval to proceed to Phase 2 Site Construction and Site Modification.

For each project and as required, the Consultant will assist the Authority in contract administration and preparing change orders/amendments to the LMR System Contractor and the LTE System Contractor. They will assist in negotiating change orders using the baseline contract specifications, performance criteria, and terms and conditions as a starting point.

For each project the Consultant will review the LMR System Contractor's and LTE System Contractor's proposed change orders in detail, looking for specific items such as:

- a. Extra equipment or software that is not necessary to build the system.
- b. Open-ended or vague statements.
- c. Inadequate vendor program management and/or quality assurance.
- d. Unclear or immeasurable performance specifications.
- e. Accuracy/applicability of labor rates and hours for the scope being performed.

#### **9.2.5 Develop Detailed A/E Design Documents for Site Improvements/Assist with Jurisdictional Approvals**

During the system design phase for each project, the LMR System Contractor and LTE System Contractor will develop architectural-engineering plans for site improvements and facilities construction for both the existing sites and any new sites. Throughout that process, the Consultant will provide over-the-shoulder peer/design reviews of the designs to ensure that best practices are being implemented, infrastructure capacity is being

planned with appropriate contingencies, and that all best management practices and environmental mitigation measures (if any) are incorporated.

The Consultant will perform visual site surveys as necessary to verify site selection and design decisions. For each project, the Consultant will review the following elements of the LMR System Contractor's and LTE System Contractor's site design:

- a. Structural analyses of existing towers and other antenna support structures.
- b. Equipment inventory.
- c. Access road conditions.
- d. General site conditions.
- e. Physical availability of surrounding land space.
- f. Perimeter security.
- g. Commercial power.
- h. Emergency power.
- i. AC and/or DC power.
- j. Equipment shelter design.
- k. HVAC.
- l. Grounding and lightning protection.
- m. Tower FAA obstruction lighting and painting.
- n. Fire suppression and prevention.
- o. Telco service.
- p. Site safety radio frequency radiation compliance.
- q. Grounding and variances from specific vendor standards.
- r. Transmission line support structures.
- s. Waveguide and dry air systems.
- t. Civil and earthwork performance criteria.
- u. Nearby obstructions that may impact microwave paths and mobile radio coverage.
- v. Implementation of best management practices and CEQA/NEPA mitigation measures, if any.
- w. Confirm site availability including – specifically if site is owned by the Authority and/or Authority members, and if the Authority has procured the legal rights to carry out the proposed improvements on the selected site.

The Consultant will provide assistance with Jurisdictional Approvals. Because the site locations fall in different cities and unincorporated areas, jurisdictional approvals for each of the LMR and LTE projects will be more complex to assess, coordinate, and track. The LMR System Contractor and LTE System Contractor are responsible for pulling permits. For each of the LMR and LTE projects, the Consultant will assist the Authority with site related tasks including, but not limited to, the following:

- a. Conducting activities relating to the acquisition of rights to the sites
- b. Conducting preconstruction site analysis and planning, including considerations for temporary utilities and structures, construction sequencing, construction site coordination, site infrastructure, construction-related traffic analysis, etc.
- c. Coordinating site activities with utility companies
- d. Coordinating geotechnical testing and investigation services
- e. Coordinating environmental site assessments
- f. Monitoring land surveying services
- g. Monitoring field engineering investigations, assessments, and reports

b. For each of the LMR and LTE projects, the Consultant will ensure that proper planning takes place for a successful outcome of the jurisdictional approval process, which will minimize any potential project delays. The Consultant will support the LMR System Contractor and LTE System Contractor to ensure that:

- a. Early in the design process for each project the LMR and LTE System Contractors identify the agencies having jurisdiction for the review and approval of the plans for each site or number of sites in the same municipality
- b. The LMR and LTE System Contractor develop a comprehensive checklist of all the agencies required to provide clearances
- c. Each project is properly introduced to jurisdictional agencies
- d. The LMR and LTE System Contractors meet with each of the major lead agencies to better understand their requirements and the turnaround time for plan checks
- e. The LMR and LTE System Contractors develop a checklist of the type of documents and number of copies each agency requires for the submittals

### **9.2.6 Prepare CEQA EIR and NEPA EA Documentation and Supporting Studies**

For the LMR (Phase 1) Environment Impact Report (EIR) and Environmental Assessment (EA), the Consultant will prepare and deliver a CEQA-compliant EIR and NEPA-compliant EA. The lead agency for the EIR will be the Authority and the lead agency for the EA will be the Federal Emergency Management Agency (FEMA). There are five (5) tasks associated with this Scope of Work as follows:

#### **TASK 1 - Project Initiation**

The Consultant will develop a Work Plan consisting of project schedule, budget, communication plan, roles and responsibilities, and safety plan for the EIR/EA preparation and delivery.

The Consultant's Program Manager will meet with LA-RICS Staff to present the Work Plan for the LMR project and discuss roles and responsibilities, deliverables, and schedule.

The Consultant will establish an Electronic File Transfer (ETF) system to be used to move data between the Consultant, the Authority, FEMA, and other project stakeholders.

#### **TASK 2 - Develop Project Description**

The Consultant will develop a draft project description for a Proposed Action based on input received from LA-RICS and the LMR System Contractor. The project description must be fully developed prior to the onset of environmental analyses, as changes to this could result in re-analysis with cost and schedule impact.

#### **TASK 3 - Develop Technical Reports**

The Consultant will develop technical reports to describe the existing environment and analyze potential environmental impacts for the EIR/EA. The Consultant will coordinate within its project team, with the System Contractor and with Authority's staff to review and incorporate applicable vetted and accepted data, outreach information, etc. in the working draft document. Resources anticipated for review include:

- a) *Aesthetics*. A generalized description of existing visual character will be conducted for most sites. Areas, byways, or highways that have special scenic designations will be focused on in greater detail (i.e., on a site specific basis). Up to 4 visual simulations will be developed.

- b) *Air Quality*. The Consultant will develop an air quality analysis sufficient to quantify anticipated emissions associated with project construction and compare these against significance thresholds established by the South Coast and Antelope Valley AQMDs. Emissions will be estimated using the CalEEMOD program. Project parameters including construction schedule, construction equipment fleet mix including Clean Air Act compliance (i.e., tier 3, tier 4), intensity and duration of use, ground disturbance will all be made available to analysis during Task 2 to support analysis. Greenhouse gas emissions will be estimated based on CEQA guidelines.
- c) *Biological Resources*. Technical studies associated with this discipline are discussed in detail in later sections of this SOW. Under the EIR/EA, significance criteria will be developed and impacts identified in relation to these.
- d) *Cultural Resources*. Technical studies associated with this discipline are discussed in detail in later sections of this SOW. Under the EIR/EA, significance criteria will be developed and impacts identified in relation to these. ODCs are included for travel and for a cultural resources records search at the South Central Coast Information Center and other regional California Historical Resources Information System (CHRIS) information centers applicable to the LMR project sites.
- e) *Paleontological Resources*. Technical studies associated with this discipline are discussed in detail in later sections of this SOW. Under the EIR/EA, significance criteria will be developed and impacts identified in relation to these. ODCs are included for a paleontological resources records search at the Los Angeles County Museum of Natural History.
- f) *Geology, Soils and Minerals*. Generalized descriptions of geology (including earthquake potential), soils, important (state- and federal-designated) farmland, and mineral resources will be prepared. Analysis of soil erosion, loss of farmland, and seismic activity will be conducted. The Consultant will review results of the site-specific geotechnical investigation provided by the System Contractor and will incorporate applicable information as needed.
- g) *Hazards and Hazardous Materials*. Analysis of impacts associated with airspace hazards, hazardous materials management, and potential to encounter past releases will be conducted. The Consultant will review and incorporate information from the site-specific hazardous material assessment report and the RF emission report provided by the System Contractor in this analysis.
- h) *Hydrology-Water Resources*. A characterization of existing surface and groundwater resources will be conducted and an analysis of project impacts on these resources made. The Consultant will review and incorporate information from the site-specific geotechnical investigation provided by the System Contractor related to groundwater resources as needed.
- i) *Land Use*. Documentation of existing zoning and general plan characteristics will be made for all applicable jurisdictions. The Consultant has assumed that the Authority's intergovernmental immunity strategy used for the LTE EA will hold for the LMR EIR/EA but will adjust the analysis as necessary based on outcome of agency outreach.

- j) *Noise*. A generalized description of the noise environment will be developed. Two generalized models showing noise contours associated with construction activities will be developed and applied to rural and urban sites.
- k) *Population/Housing/Environmental Justice*. General population characteristics will be described. The expectation is that this analysis will be qualitative and of minimal length. An environmental justice analysis will be prepared following the Council on Environmental Quality guidelines.
- l) *Public Services*. A brief description of public services will be developed, and an analysis of the Proposed Action's effect on public services will be performed.
- m) *Recreation Resources*. A brief description of existing recreational resources near LMR sites will be provided, along with a discussion of impacts associated with construction and operations.
- n) *Transportation-Traffic*. A qualitative discussion will be provided regarding transportation and traffic.
- o) *Utilities-Service Systems*. A brief overview of electric, water, wastewater, and solid waste providers will be included, along with a high-level analysis of project demands against system capacities.

Additionally, the Consultant will perform literature searches and order data from reputable repositories to establish baseline conditions in the proposed project area for each of the resources identified above.

#### TASK 4 – Prepare the EA and EIR

The Consultant will develop a draft and final EA/EIR and prepare document necessary for filing and public notices compliant with CEQA and NEPA. The effort will include:

- a) A working draft EA/EIR will be provided to the Authority with one round of comment incorporation (followed with a screen check copy).
- b) An administrative draft EA/EIR will be provided to FEMA with one round of comment incorporation (followed with a screen check copy).
- c) A published draft EA/EIR used to solicit public comments.
- d) A working final EA/EIR will be provided to the Authority with one round of comment incorporation (followed with a screen check copy).
- e) An administrative final EA/EIR will be provided to FEMA with one round of comment incorporation (followed with a screen check copy).
- f) A published final EA/EIR will be used to support a Finding of No Significant Impact (FONSI) and for certification purposes (EIR).

Total document size including appendices (but not including supporting tech studies such as 620/621 forms or EDR reports) is anticipated to be no more than 3000 pages. Up to 5 hardcopies of the Public Draft and Public Final versions of the document will be printed. Cost of outsourcing of printing is to be reimbursed by LA-RICS to Consultant. Remaining

public versions of the document will be made available on the Authority's LA-RICS web site or CD/DVD. Copies of working, administrative, and screen check versions will be made available to internal reviewers by FTP or SharePoint site. Any document filing fees is to be reimbursed by LA-RICS to Consultant.

#### TASK 5 – Maintain Administrative Record

The Consultant will be responsible for maintaining the administrative record for the LMR environmental EA/EIR project. This will include draft and final reports, references, correspondence with lead, cooperating, or regulatory agencies, etc., public comments, internal written communications, data contact logs, project notices, final modeling runs for noise and air quality analysis, GIS database, and field logs.

Regarding **Biological Resources**, the Consultant will perform biological surveys and prepare biological reports through the Design Phase of the LMR project. The Consultant will support federal Endangered Species Act Section 7 consultation with USFWS, and Section 2081 and 2080.1 (California Fish and Game Code) consultation with CDFW. There are two (2) Tasks for the biological scope of work: 1) Conduct Surveys and 2) Prepare Biological Reports, which are defined below:

##### 1. Conduct Surveys

While it is possible that hundreds of special-status species could occur in the action area, effects to this many species are not anticipated. As a result, based on current knowledge, a total of 9 types of surveys are proposed for the LMR project. Specific information necessary to determine need for additional survey (over that discussed below) can only be gained through the habitat assessment, which is the first survey proposed.

A stepped approach to surveys is included in this effort, in order to more efficiently tailor more expensive focused surveys to those areas expected to require them. Each is described below.

- a) *General Habitat Assessment*. This involves a desktop analysis of 120 sites to describe general biological character (i.e., urban or rural), and the land cover present. Land cover will be classified using either Holland (1986), or the Manual of California Vegetation, 2<sup>nd</sup> Edition (2009) method. A field study area (FSA) extending 500 feet from the LMR tower centroid and at least 100 feet from the LMR site boundaries (whichever is greater) will be established. Field maps will be created based on land cover identified during the desktop assessment. Field teams will mobilize to the 120 sites. For urban sites, site access will not be required (rather, more natural appearing areas within the surrounding FSA will be visited). For rural sites, areas within the LMR site and surrounding FSA will be classified. For all sites, land cover identified during the desktop analysis will be confirmed. The data will be compiled in GIS and a letter report developed.
- b) *Botanical Surveys*. Focused botanical surveys can be accommodated at up to 12 sites. For the survey, a plant compendia consisting of special-status plants (down to California Rare Plant Rank 2B) will be developed. The field botanists will visit reference populations of subject species (either at appropriate herbaria or in the field). Teams of 2 botanists (one a senior-level botanist) will be fielded at each of the 12 sites. One spring survey is anticipated at the 12 sites, with follow up survey at 6 sites to identify any late-blooming sensitive species. The data will be compiled in GIS and a letter report developed.
- c) *Arroyo Toad*. Survey for arroyo toad has been accommodated for only one site. This is based on an assumption that only one LMR site would be located within one kilometer of arroyo toad habitat. The six required surveys are at specified intervals and must occur between March 15 and July 1. Survey will be



conducted in accordance with the USFWS' *Survey Protocol for the Arroyo Toad, May 1 1999*. The data will be compiled in GIS and a single letter report developed for the entire set of surveys.

- d) *California Red-Legged Frog*. Survey for the California red-legged frog has been accommodated for only one site. This is based on an assumption that only one LMR site would be located within one mile of California red-legged frog habitat. The eight required surveys are at specified intervals and six of these must occur between February 25 and April 30. Survey will be conducted in accordance with the USFWS' *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog*, August 2005. The data will be compiled in GIS and a single letter report developed for the entire set of surveys.
- e) *Desert Tortoise*. Survey for the desert tortoise has been accommodated for two sites, each identified at NTP. The LMR site itself will be surveyed, along with three additional belt transects, at 200 meters, 400 meters, and 600 meters from the LMR site boundary. Survey will be conducted in accordance with the USFWS' *Preparing for Any Action that May Occur Within the Range of the Mojave Desert Tortoise, 2010 Field Season*. The data will be compiled in GIS and a single letter report developed for the entire set of surveys.
- f) *Coastal California Gnatcatcher*. Survey for the coastal California gnatcatcher has been accommodated for two sites, using the spring survey protocol. The six required breeding season surveys are at specified intervals and these must occur between March 15 and June 30. If this survey window is missed, then non-breeding season surveys consisting of 9 surveys can occur between July 1 and March 14 at an additional cost of \$35,000 for the two assumed sites, as nine surveys would be required outside of breeding season. Survey will be conducted in accordance with the USFWS' *Coastal California Gnatcatcher Presence/Absence Survey Guidelines*, February 28, 1997. The data will be compiled in GIS and a single letter report developed for the entire set of surveys.
- g) *Least Bell's Vireo*. Survey for the least Bell's vireo has been accommodated for only one site. This is based on an assumption that only one LMR site would be located within 500 feet of least Bell's vireo habitat. The eight required surveys are at specified intervals and must occur between April 10 and July 31. Survey will be conducted in accordance with the USFWS' *Least Bell's Vireo Survey Guidelines*, January 19, 2001. The data will be compiled in GIS and a single letter report developed for the entire set of surveys.
- h) *Southwestern Willow Flycatcher*. Survey for the southwestern willow flycatcher has been accommodated for only one site. This is based on an assumption that only one LMR site would be located within 500 feet of southwestern willow flycatcher habitat. The five required surveys are at specified intervals and must occur between May 15 and July 17. Survey will be conducted in accordance with the USFWS' *A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher*, 2010. The data will be compiled in GIS and a single letter report developed for the entire set of surveys.
- i) *Burrowing Owl*. Efforts for burrowing owl are two-phased. A focused survey is assumed as required at a single site. Habitat assessment and survey will be conducted within the FSA only in accordance with the CDFW's *Staff Report on Burrowing Owl Mitigation*, March 7, 2012. The data will be compiled in GIS and a single letter report developed for the entire set of surveys.

General Assumptions:

- a) It is assumed that there are 120 LMR sites in the "universe of sites" and that no new sites will be added to this universe after receipt of the initial NTP.

- b) The Authority recognizes that new sites added after NTP can affect the overall project schedule as well, if required biological resources surveys are not conducted in accordance with timelines stipulated in state or federal protocols or guidance.
- c) It is assumed that escorts will be required for LMR site visits. Authority will schedule and cluster site visits to minimize travel time.
- d) New sites will not be added to the “universe of sites” after NTP. Cost of additional sites will need to be negotiated.
- e) Unless otherwise identified, all effort identified herein represents maximum 10 hours per day effort, including two hours round trip drive time.
- f) No wetland delineations have been included in this cost proposal.
- g) It is assumed that no work would occur within an existing applicable HCP or NCCP except for one site. It is assumed that no work would occur within lands administered by the Santa Monica Mountains Conservancy.

## 2. Prepare Biological Reports

In addition to the small tech memos (letter reports) to be developed for the individual species survey efforts, the consultant will prepare up to three comprehensive reports for the project. These include a biological assessment and a biological technical report covering 120 sites, and biological evaluation (for federal lands).

- a) A *Biological Assessment* will be developed to support Section 7 consultation under the Federal Endangered Species Act, and consistency determinations under Section 2080.1 of the California Fish and Game Code. Up to 41 species would be included for consideration in this document, however, only 20 of the species would be expected to occur within the project area (reducing full analysis to 21 species).
- b) A *Biological Technical Report* would be developed to document occurrence for and impacts to special-status species in the project area. This document would be used to support Section 2081 permitting with CDFW, and provide supporting analysis for the EA/EIR.
- c) A *Biological Evaluation* will be developed to support special use and right of way permitting on federal lands. This document will account for species occurrence and impacts for agency-designated special-status species such as BLM Sensitive, BLM WEMO HCP, Forest Service Sensitive, and/or Forest Service Management Indicator Species.

### General Assumptions:

- a) Consultant will cooperate with the Authority in the draft preparation and incorporate comments of the Authority’s internal reviewers to finalize a draft document, with an additional screen check copy provided prior to submission to other agencies. Comments will be incorporated and submitted for federal lead and / or cooperating agency review.

- b) Two rounds of review will be accomplished by federal lead and/or cooperating agency reviewers, with an additional screen check copy provided prior to submission to other agencies. Comments will be incorporated and submitted for regulatory agency (e.g., USFWS, CDFW) or land management agency (e.g., USFS, BLM) review and concurrence with findings.

Regarding **Cultural Resources**, the Consultant will perform cultural resources surveys and prepare cultural resources reports through the planning phase of the LMR project. The Consultant will support SHPO and Native American consultation. There are three (3) Tasks for the cultural resources scope of work, 1) Archaeological Resources, 2) Native American Resources, and 3) State Historic Preservation Office coordination, which are defined below:

*1. Archaeological Resources*

- a. A Work Plan and Research Design will be prepared for the project to determine the likely presence of archaeological resources that may be affected by project implementation. This will set the framework upon which the subsequent work will be conducted.
  - b. The Record Search will be conducted at the South Central Coastal Information Center (SCCIC) and other regional California Historical Resources Information System (CHRIS) information centers applicable to the LMR project sites. The SCCIC houses information about archaeological and historical resources (e.g. location, size, age, etc.) within Ventura, Los Angeles, and Orange Counties as well as information regarding previous research conducted in the vicinity of our project locations. This will inform us about the potential for impacts to known and suspected archaeological resources on or in the vicinity of the project locations.
  - c. Fieldwork Planning and Preparation will be conducted next to determine where field surveys need to be performed on the basis of the above research. We assume that at least 65 rural locations will need to be field surveyed.
  - d. Fieldwork will be performed to determine presence/absence of archaeological resources, whether previously documented or newly discovered. Teams of qualified archaeologists will mobilize to the project sites and prepare field notes, take photographs, and document the results of their field efforts as individual locations are examined.
  - e. Data Compilation (mapping and photos) will be conducted to provide information regarding the results of the research, record checks, and field investigations to use for preparation of the report.
  - f. Report Preparation will include the preparation of FCC Forms 620/621 in accordance with NEPA compliance requirements. This will form the basis for reporting the results of the above efforts and for making recommendations for avoidance or for mitigation, as appropriate. A summary of the findings for Forms 620/621 will also be provided.
- 2. Native American Resources.* In accordance with the Native American Heritage Commission (NAHC), contact will be made early on with the NAHC to determine the presence of any sacred sites or sites of special significance to Native Americans in the project area. Tribal contacts will be established from information provided by the NAHC and will include follow-ups with tribal leaders as appropriate. Data will be compiled and documented through mapping, site photos, and site forms as needed. This information will then be inserted into the FCC Forms 620/621 as necessary. No separate report will be prepared.

3. *State Historic Preservation Office (SHPO) Consultation.* The State Historic Preservation Office (SHPO) Consultation process will be conducted in accordance with state and federal requirements. This will include the development of correspondence with SHPO for sites that may be of state-wide or federal importance that may be impacted by the project. Consultation will begin early in the process of preparation for the project and will continue throughout the life of the project. This task also includes participation in Authority Meetings throughout the life of the project.

General Assumptions:

- a) It is assumed that there are 120 LMR sites in the “universe of sites” and that no new sites will be added to this universe after receipt of the initial NTP.
- b) The Authority recognizes that new sites added after NTP can affect the overall project schedule as well, if required cultural resource surveys are not conducted in accordance with timelines stipulated in state or federal protocols or guidance.
- c) It is assumed that escorts will be required for LMR site visits. The Authority will schedule and cluster site visits to minimize travel time, and provide site escorts as required.
- d) The Authority recognizes that there could be fees associated with the filing of documents with relevant authorities. These fees will be reimbursed to the Consultant as part of Other Direct Costs (ODCs).

As specified in the LMR and LTE System Contracts, the LMR System Contractor and LTE system Contractor are to document site conditions sufficiently to design and accomplish the improvements required at each site. The Consultant will review the resultant geotechnical reports and site environmental assessments for each project to evaluate the findings and recommended solutions, particularly for foundations and any potential underground environmental hazards, along with biological, archeological, and botany considerations.

For the LMR or LTE projects, should any hazardous materials be uncovered unexpectedly during excavation, the Consultant will provide qualified technical personnel to assist in evaluating materials procedures for testing, handling, transport, and/or disposal of such materials with minimal project impact and in full compliance with governing laws and regulations.

LMR deliverables for this Phase 1 will at a minimum be:

- a. LMR-PH1-9.2.1 Project Description Review Document
- b. LMR-PH1-9.2.2 System Design Review Document, Requirements Traceability Matrix, and Coverage and Capacity Verification Document
- c. LMR-PH1-9.2.3 Site Design Review Document
- d. LMR-PH1-9.2.4 Final Design Document Review Document
- e. LMR-PH1-9.2.5 Outreach Presentations, Marketing Materials, and Fact Sheets
- f. LMR-PH1-9.2.6 Environmental Documents Preparation

LTE deliverables for this Phase 1 will at a minimum be:

- a. LTE-PH1-9.2.1 Project Description Review Document
- b. LTE-PH1-9.2.2 System Design Review Document, Requirements Traceability Matrix, and Coverage and Capacity Verification Document

- c. LTE-PH1-9.2.3 Site Design Review Document
- d. LTE-PH1-9.2.4 Final Design Document Review Document
- e. LTE-PH1-9.2.5 Outreach Presentations
- f. LTE-PH1-9.2.6 Environmental Documents Review Reports

**9.2.7 Prepare CEQA Statutory Exemption Analysis and Notices of Exemption, and prepare NEPA EA and Supporting Studies**

For the LTE CEQA and NEPA compliance effort, the Consultant will

- a. Conduct analysis, prepare, and file Notices of Exemption with the respective County clerk office or jurisdiction over the PSBN sites in accordance with Section 21080.25, as amended by AB 1486.
- b. Prepare a NEPA-compliant Supplemental EA. It is assumed that a FONSI for the LTE sites analyzed in the “base EA” (up to 231 sites) will have been signed by NTIA and that the base EA supporting this FONSI will be available for use for incorporation by reference for any supplemental analysis.

There are five tasks associated with this Scope of Work as follows:

**TASK 1 - Develop Project Description**

The consultant will develop a summary draft project description for a Proposed Action based on up to 45 individual project sites, including changes at sites previously considered in the base EA. These 45 potential sites would include up to 9 potential sites (two on federal land) not considered in the base EA, 7 LMR sites used for backhaul, and sites that include fiber runs, none of which is expected to exceed two miles in length. It is assumed that up to 33 of these 45 sites will require field surveys for biological and cultural resources. All new project descriptions will be based on input received from the Authority and the LTE Contractor.

**TASK 2 - Develop Technical Reports**

The Consultant will develop technical reports to describe the existing environment and analyze potential environmental impacts for the environmental analysis, only as these relate to resources/impacts not contemplated in the base EA. For sites previously contemplated in the base EA (in accordance with NTIA BTOP environmental assessment guidelines), data and analysis from the base EA will be incorporated by reference into the supplemental NEPA analysis, provided that the proposed sites or site development scope is the same or similar.

The Consultant will coordinate within its project team, with the LTE System Contractor, Authority’s staff, and with input from NTIA to review and incorporate applicable vetted and accepted data in the working draft document. Resources anticipated for review include:

- a) *Aesthetics*. A generalized description of existing visual character will be developed for most sites. Areas, byways, or highways that have special scenic designations will be focused on in greater detail (i.e., on a site specific basis). No visual simulations are anticipated to be necessary.
- b) *Air Quality*. It is assumed that the base EA’s air quality analysis would be incorporated by reference into the analysis.
- c) *Biological Resources*. Technical studies associated with this discipline are discussed in detail in later sections of this SOW.

- d) *Cultural Resources*. Technical studies associated with this discipline are discussed in detail in later sections of this SOW.
- e) *Paleontological Resources*. Findings of the records search, along with a database and map will be developed for each site that includes geological formations, and paleontological sensitivity level. Impacts to paleontological resources will be assessed in the environmental document.
- f) *Geology, Soils and Minerals*. Generalized descriptions of geology (including earthquake potential), soils, important (state- and federal-designated) farmland, and mineral resources will be prepared for new sites not contemplated in the base EA. Analysis of soil erosion, loss of farmland, and seismic activity will be conducted for those new sites.
- g) *Hazards and Hazardous Materials*. For sites not contemplated in the base EA, analysis of impacts associated with airspace hazards, hazardous materials management, and potential to encounter past releases will be conducted. The Consultant will procure analyze, and provide a site-specific hazardous substance assessment report along with a summary analysis of this report for sites not contemplated in the base EA.
- h) *Hydrology-Water Resources*. A characterization of existing surface and groundwater resources will be conducted and an analysis of project impacts on these resources made for new sites not previously contemplated in the base EA. The Consultant will review and incorporate information from the site-specific geotechnical investigation provided by the LTE Contractor related to groundwater resources as needed.
- i) *Land Use*. Documentation of existing zoning and general plan characteristics will be made for all applicable jurisdictions where new sites are contemplated as consistent with the land use analysis approach in the base EA.
- j) *Noise*. Two generalized models showing noise contours associated with construction activities will be developed and applied to sites not contemplated in the base EA. Presentation will be made in tabular format.
- k) *Population/Housing/Environmental Justice*. An environmental justice analysis will be prepared following the Council on Environmental Quality guidelines for new sites not contemplated in the base EA. Data will be presented in tabular format.
- l) *Public Services*. A brief (tabular format) description of public services will be developed, and an analysis of the Proposed Action's effect on public services will be performed for new sites not contemplated in the base EA.
- m) *Recreation Resources*. A brief description of existing recreational resources near new sites not contemplated in the base EA will be provided, along with a discussion of impacts associated with construction and operations.
- n) *Transportation-Traffic*. A qualitative discussion will be provided regarding transportation and traffic for sites not contemplated in the base EA.
- o) *Utilities-Service Systems*. A brief overview of electric, water, wastewater, and solid waste providers will be included, along with a high-level analysis of project demands against system capacities for sites not contemplated in the base EA.

Additionally, the Consultant will perform literature searches and order data from reputable repositories to establish baseline conditions in the proposed project area for each of the resources identified above for sites not contemplated in the base EA. Any notices required to be filed related to CEQA that have not been contemplated in this effort would be reimbursable to the Consultant by the Authority. ODC's are included for the following:

1. Travel to new LTE sites that were not contemplated in the base EA for field surveys
2. Travel and for a cultural resources records search at the South Central Coast Information Center and other regional California Historical Resources Information System (CHRIS) information center applicable to the LTE project sites, as well as for field surveys
3. Paleontological resource records search at the Los Angeles County Museum of Natural History for sites not previously contemplated in the base EA
4. Procure environmental site assessment database searches from a commercial source
5. Any additional research efforts required for this work.

#### TASK 3 – Prepare the Environmental Documentation

The Consultant will develop environmental documentation to support CEQA Notices of Exemption. In addition, the Consultant will develop sufficient analysis to support a draft and final supplemental EA (to support a FONSI). The effort may include:

- a) A working draft EA provided to the Authority with comment incorporation (followed with a screen check copy) until accepted by the Authority.
- b) An administrative draft EA provided to NTIA with comment incorporation (followed with a screen check copy) until accepted by the Authority.
- c) A published draft EA used to solicit agency comments.
- d) A working final EA will be provided to the Authority and NTIA with one round of comment incorporation (followed with a screen check copy) until accepted by the Authority.
- e) An administrative final EA will be provided to the Authority and NTIA with one round of comment incorporation (followed with a screen check copy) until accepted by the Authority.
- f) A published final EA will be used to support a Finding of No Significant Impact (FONSI).

Total document size including appendices (but not including supporting tech studies such as 620/621 forms or EDR reports) is anticipated to be no more than 500 pages. Up to 5 hardcopies of the administrative final EA and published Final EA versions of the document will be printed. Cost of outsourcing of printing may be reimbursed by the Authority to the Consultant upon approval by the Authority. Remaining public versions of the document will be made available on the Authority's LA-RICS web site or CD/DVD. Copies of working, administrative, and screen check versions will be made available to internal reviewers by FTP or SharePoint site. Any document filing fees is to be reimbursed by the Authority to the Consultant upon approval by the Authority.

The following schedule is assumed for development of the Supplemental EA:

Notice to Proceed:	August 22, 2014
Develop Final Project Description and Purpose and Need Statement:	September 26, 2014
Working Draft EA to Authority:	October 10, 2014
Admin Draft to NTIA:	November 7, 2014
Public Draft EA:	January 2, 2015
Final Draft EA:	February 6, 2015

#### TASK 4 – Maintain Administrative Record

The Consultant will be responsible for maintaining the administrative record for the supplemental LTE NEPA and CEQA compliance effort. This will include draft and final reports, references, correspondence with lead, cooperating, or regulatory agencies, etc., public comments, internal written communications, data contact logs, project notices, final modeling runs for noise and air quality analysis, GIS database, and field logs.

#### TASK 5 – Special Studies

##### Biological Resources.

Regarding **Biological Resources**, the Consultant will perform habitat assessment and prepare biological reports for the sites or site development scope that is not in the base EA. The Consultant will support federal Endangered Species Act Section 7 consultation with USFWS. There are two (2) Tasks for the biological scope of work: 1) Conduct Surveys and 2) Prepare Biological Reports, which are defined below:

Specific information necessary to determine need for additional survey (over that discussed below) will be gained through a habitat assessment, as below.

1. *General Habitat Assessment*. This involves a desktop analysis of 33 of the up to 45 sites not contemplated in the base EA to describe general biological character (i.e., urban or rural), and the land cover present. These “sites” may include an analysis of habitat along easements for fiber or electrical interconnection extending up to one mile from a particular LTE site (one easement per site). Land cover will be classified using either Holland (1986), or the Manual of California Vegetation, 2<sup>nd</sup> Edition (2009) method. A field study area (FSA) extending up to 100 feet from the LTE site boundaries (whichever is greater) will be established. Field maps will be created based on land cover identified during the desktop assessment. Field teams will mobilize to the 33 sites. For urban sites, site access will not be required (rather, more natural appearing areas within the surrounding FSA will be visited). For rural sites, areas within the new LTE site (or fiber/utility corridor) and surrounding FSA will be classified. For all sites and corridors not contemplated in the base EA, land cover identified during the desktop analysis will be confirmed. The data will be compiled in GIS and a letter report developed.

The habitat assessment effort will be conducted electronically and will support development of a GIS and the reports identified below, for up to 33 sites not previously contemplated in the base EA.

2. Prepare Biological Reports
  - a) A supplemental *Biological Assessment* will be developed to support Section 7 consultation under the federal Endangered Species Act if necessary. Up to 42 species would be included for consideration in this document.



- b) A *Biological Technical Report* will be developed to document occurrence for and impacts to special-status species in the project area.
- c) A *Biological Evaluation* will be developed to support special use and right of way permitting on federal lands. This document will account for species occurrence and impacts for agency-designated special-status species such as Forest Service Sensitive species.

The biological compliance efforts will be included in the final Supplemental EA.

#### Cultural Resources

Regarding **Cultural Resources**, the Consultant will perform cultural resources surveys and prepare cultural resources reports for the supplemental LTE EA effort. The Consultant will support SHPO, NAHC, and Native American consultation (i.e., TCNS). There are three (3) tasks for the cultural resources scope of work, 1) Archaeological Resources, 2) Native American Resources, and 3) State Historic Preservation Office coordination, which are defined below:

##### 1. *Archaeological Resources*

- a) A work plan will be prepared for the project to determine the likely presence of archaeological resources that may be affected by project implementation. This will set the framework upon which the subsequent work will be conducted.
- b) A record search will be conducted at the South Central Coastal Information Center (SCCIC) to obtain California Historical Resources Information System (CHRIS)-held information applicable to up to 45 new sites not contemplated in the base EA.
- c) Fieldwork planning and preparation will be conducted next to determine where field surveys need to be performed on the basis of the above research. We assume that up to 33 sites not contemplated in the base EA will need to be field surveyed. A fieldwork authorization for effort on up to two federally-administered sites will be obtained by the consultant if needed.
- d) Fieldwork will be performed to determine presence/absence of archaeological resources, whether previously documented or newly discovered. Teams of qualified archaeologists will mobilize to the project sites and prepare field notes, take photographs, and document the results of their field efforts as individual locations are examined.
- e) Data compilation (mapping and photos) will be conducted to provide information regarding the results of the research, record checks, and field investigations to use for preparation of the report.
- f) Report preparation will include the preparation of FCC Forms 620/621 in accordance with NEPA and NHPA compliance requirements. This will form the basis for reporting the results of the above efforts and for making recommendations for avoidance or for mitigation, as appropriate. A single brief report meeting the California Office of Historic Preservation's Archaeological Resources Management Report (ARMR) standards will be prepared to account for surveys associated with fiber runs and other ancillary disturbance activities. Summaries of the findings from Forms 620/621 and the report will also be provided for use in any supplemental NEPA documentation.

- 2. *Native American Resources.* Native American correspondence will be managed by the Consultant, and prepared for appropriate approval. In accordance with the Native American Heritage Commission (NAHC), contact will be made early on with the NAHC to determine the presence of any sacred sites or sites of special significance to

Native Americans in the project area. Tribal contacts will be established from information provided by the NAHC and will include follow-ups with tribal leaders as appropriate. Data will be compiled and documented through mapping, site photos, and site forms as needed. This information will then be inserted into the FCC Forms 620/621 as necessary. No separate report will be prepared. No additional costs associated with Native American consultation (i.e., expenses associated with review of 620 forms, monitoring, etc.) have been contemplated in this effort.

3. *State Historic Preservation Office (SHPO) Consultation.* The State Historic Preservation Office (SHPO) consultation process will be conducted in accordance with state and federal requirements, using NTIA as a lead agency and adopting the Nationwide and Collocation Programmatic Agreements. This will include the development of correspondence with SHPO for sites that may be of state-wide or federal importance that may be impacted by the project. Consultation will begin early in the process of preparation for the project and will continue throughout the life of the project. This task also includes participation in Authority Meetings throughout the life of the project. SHPO consultation will be included in the final Supplemental EA, unless otherwise directed by the NTIA, the federal lead agency.

General Assumptions:

For sites previously contemplated in the base EA, data and analysis from the base EA will be incorporated by reference into the supplemental NEPA analysis. It is assumed that there are up to 45 new areas including LTE sites and fiber runs not contemplated in the base EA that will be included in the field efforts for biological and cultural resources.

**9.3 PHASE 2 – LMR AND LTE SITE CONSTRUCT AND SITE MODIFICATION**

In this phase of each of the LMR and LTE projects, the Consultant will oversee the implementation of the site improvements developed by the LMR System Contractor and the LTE System Contractor during the system design phase. The plans and specifications developed during the design phase should address modifications to existing sites, facilities or infrastructure, as well as site improvements and construction of new facilities and infrastructure at new sites for each project.

In this Phase 2, the Consultant will verify that the LMR System Contractor and the LTE System Contractor delivers the work of site modifications and construction of facilities and infrastructure meeting the quality specified in the plans and specifications that were reviewed and accepted during Phases 1, System Design.

The Consultant's field engineers/construction managers will be involved hands-on on a daily basis to make sure that the following items are addressed for each project:

- a. Verify that all required permits are on hand before starting any construction activities
- b. Communicate upcoming construction activities in advance to all stakeholders and the appropriate communities if impacts are expected
- c. Process and address any requests for information and submittals coming from the LMR System or LTE System Contractors
- d. Conduct construction observation to resolve any quality-related issues as they arise
- e. Coordinate the services of the various specialty consultants, including special inspection and material testing
- f. Monitor construction progress against the respective LMR or LTE project baseline schedules for each site and address recovery plans if delays become necessary
- g. Review progress payment applications against work in place and process for payment as appropriate

- h. Process any potential changes arising out of unforeseen field conditions or Authority-initiated directives
- i. Ensure that all best management practices and environmental mitigation measures (if any) are addressed as defined in the environmental documents
- j. Ensure that all master punch list work is completed properly and in a timely manner
- k. Coordinate all inspection activities with the Inspector Of Record (IOR) and with deputy inspectors as may be assigned for each project.

The approved LMR and LTE System Designs may require modifications to existing sites, or new shelters and towers may be needed to accommodate coverage requirements, new equipment, or correct existing deficiencies. These modifications may include grounding system improvements, electrical system upgrades, tower reinforcements, or equipment shelter expansions.

The Consultant will oversee any LMR System or LTE System site modifications to evaluate construction methodologies and practices of the respective Contractors. Upon notice from the LMR System or LTE System Contractor that site improvement work is ready for final inspection, the Consultant will conduct site inspections to ensure a quality installation and that applicable punch list items have been resolved.

LMR deliverables for this Phase 2 will at a minimum be:

- a. LMR-PH2-9.3.1 Final Site Construction Report
- b. LMR-PH2-9.3.2 Final Site Acceptance Report
- c. LMR-PH2-9.3.3 Outreach Presentations, Marketing Materials and Fact Sheets
- d. LMR-PH2-9.3.4 Environmental Document Review Reports

LTE deliverables for this Phase 2 will at a minimum be:

- a. LTE-PH2-9.3.1 Final Site Construction Report
- b. LTE-PH2-9.3.2 Final Site Acceptance Report
- c. LTE-PH2-9.3.3 Outreach Presentations, Marketing Materials and Fact Sheets
- d. LTE-PH2-9.3.4 Environmental Document Review Reports

#### **9.4 PHASE 3 – SUPPLY LMR AND LTE SYSTEM COMPONENTS**

For each of the LMR and LTE projects, upon successful completion of Phase 1 System Design and Phase 2 Site Construction and Site Modification, Phase 3 Supply Telecommunications System Components will commence. This Phase 3 consists of ordering, supplying, fabricating, and delivering the LMR System and LTE System components. As this Phase 3 kicks off, it will be important to confirm or re-establish the baseline project schedule, critical path drivers, work plans, and budget for each project.

The Consultant will work closely with the Authority to administer new contract orders and/or change orders, as necessary, for procuring the hardware, software, and other materials and services necessary to implement the LMR System and LTE System respectively.

For each project and before factory orders are placed, the Consultant will review all equipment lists for accuracy and completeness, ensuring they match the requirements of the LMR System and LTE Systems Contracts and the final design documentation. For each project they will use the RTM developed during Phase 1 System Design to monitor compliance with the system performance criteria and environmental documents.

#### **9.4.1 Factory Acceptance Tests (FAT) and Equipment Staging**

For each of the LMR and LTE projects, the Factory Acceptance Test (FAT) and equipment staging process involves assembling system infrastructure equipment for each site at the LMR System Contractor's and LTE System Contractor's facility(s) and conducting as much of the Acceptance Test Plan (ATP) activities as possible. The Consultant, as adjunct to, on behalf of, or as proxy for the Authority, will attend the FAT for each project and verify that the accepted testing procedures are properly executed and that the results concur with the system performance criteria as specified in the respective LMR and LTE technical requirements. For each project and after staging, the site equipment will be packed by the LMR System and LTE System Contractors for delivery or storage.

To provide the appropriate level of quality assurance during the FAT, the Consultant will perform the following actions for each project:

- a. Re-review all applicable factory test procedures and confirm that they are designed to simulate, as closely as possible, the final overall system configuration
- b. Verify test equipment metrology to ensure it is properly calibrated
- c. Verify testing results will be properly documented and that any subsystem that was not tested as part of the overall staging effort is properly tested and documented by the specific supplier
- d. Verify that any issues requiring a software, firmware, or hardware upgrade, downgrade, or retrofit will be clearly identified prior to shipment
- e. Update master punch list throughout FAT, including recommended remedial action
- f. Maintain results in a FAT report that includes FAT items from the master punch list
- g. Update the requirements traceability matrix with FAT results

#### **9.4.2 Materials Management**

For each of the LMR and LTE projects, the Consultant will establish a logistics management process to ensure that the right materials are at the right place at the right time during deployment, including specifying, ordering, staging, kitting, shipping, sparing, and returns.

For each project and immediately following the FAT/staging process, while still at the manufacturer's facility, the Consultant will conduct an inventory of equipment for each site to include but not be limited to:

- a. Electronics and ancillary equipment, including respective LMR System and LTE System, and microwave radios, equipment racks, power and signaling cabling, transmission lines and wave guides, antennas, grounding, and surge suppression
- b. Components for shelter, antenna support structure, commercial power, emergency power, HVAC, site security, cable ladders and ice bridges, lighting, fire suppression system, and overall workmanship and materials
- c. Site documentation and manuals for completeness; we will be particularly sensitive to as-built drawings and ensure that they reflect actual site conditions
- d. FCC licenses and other regulatory permits and documentation.

For each project, the Consultant will verify that inventories document quantity, model, revision level, and serial numbers as appropriate. The Consultant will note any deviations from the factory orders/equipment lists in the master punch list, even if the inventory is to be placed into storage after FAT/staging.

LMR deliverables for this Phase 3 will at a minimum be:

- a. LMR-PH3-9.4.1 Final Factory Acceptance Test Report
- b. LMR-PH3-9.4.2 Final Equipment Staging Report

- c. LMR-PH3-9.4.3 Final Inventory and Maintenance Tracking System (IMTS) Report

LTE deliverables for this Phase 3 will be:

- a. LTE-PH3-9.4.1 Final Factory Acceptance Test Report
- b. LTE-PH3-9.4.2 Final Equipment Staging Report
- c. LTE-PH3-9.4.3 Final IMTS Report

### **9.5 PHASE 4 – LMR and LTE SYSTEM IMPLEMENTATION**

For each of the LMR and LTE projects, the Consultant will provide implementation planning and execution support services using the proven processes described below. The Consultant understands that the LMR System and LTE System deployment plan may vary from the Phases defined in the LMR System Contractor's and LTE System Contractor's Contract:

- a. The LMR System Contractor or LTE System Contractor that the Authority selects
- b. Whether Notices To Proceed (NTP), or partial NTPs are issued for the Phases of each project
- c. The LMR System's and LTE System's final technical, geographical, and/or operational attributes
- d. Funding sources
- e. Evolving priorities and other influences, such as political, environmental, and budgetary conditions

During system implementation and deployment for each project, the Consultant will provide oversight services to ensure the LMR System Contractor and LTE System Contractor executes according to the approved implementation plan and in conformance with the system performance criteria in each of the LMR System Contract and LTE System Contract.

#### **9.5.1 Implementation Planning**

For each project, the Consultant will work closely with the Authority and the LMR System Contractor and LTE System Contractor to define a comprehensive, step-by-step implementation plan and Integrated Master Schedule (IMS) for the LMR and LTE projects solutions. The implementation plan and schedule will be based on industry best practices for developing LMR and LTE radio systems and will address, at a minimum and for each project:

- a. Conformance to the applicable of the LMR System Contract and LTE System Contract and system performance criteria
- b. Adequate, phased schedule
- c. Risk identification and mitigation planning
- d. Frequency planning and FCC licensing
- e. Indication of system acceptance and other testing completion sign-off by appropriate Authority stakeholders
- f. Indication that users and operations personnel must be fully trained
- g. Minimizing the impact on system operations and service disruptions to public safety critical systems
- h. Detailed procedures for acceptance testing, cutover, and operations
- i. Minimal operation disruption during transition for users and dispatch
- j. Roles and responsibilities of Authority personnel and LMR System Contractor and the LTE System Contractor personnel
- k. Subsystem migration plans
- l. P25 and broadband mobile data (LTE) upgrades
- m. Other technology upgrades

The Consultant understands that the aspects of the design and implementation plans may change in each project, prompting the need for additional or refined cost analysis. They will evaluate variances from the baseline established in previous Phases and revise cost estimates as previously described.

### **9.5.2 Radio Service Migration Planning**

For each of the LMR and LTE initiatives, it is extremely important to have a detailed migration plan for orderly transition from the legacy voice and data radio systems to the interoperable LMR and LTE Systems. Each step in the migration plan for each project should consider minimizing service interruptions and the impact to system users. The Consultant will review the LMR System Contractor's and LTE System Contractor's migration plan and assist the Authority in coordinating the migration process with all jurisdictions in advance of acceptance testing. Among other considerations, the migration plans for each project must account for frequency utilization as well as how legacy and new equipment can coexist to facilitate a smooth transition.

The Consultant recognizes that overall system migration for large regional and statewide systems is best executed in phases—bringing live the new system's various segments one at a time. They will work with the LMR and LTE System Contractors to transition the Authority's voice and data radio operations in coordinated phases.

For each of the LMR and LTE projects, starting in the Phase 1 Design Phase, and continuing through Phase 4 System Implementation, the Consultant will assist the Authority in evaluating how the new LMR and LTE Systems will affect the current regional operations, interoperability, policies and procedures, and governance. For each project, and in order to determine what changes may be required to meet the public safety needs with the new/upgraded LMR and LTE System, the Consultant will review the following:

- a. Current regional tactical interoperable communications plan (TICP)
- b. Operating agreements and memoranda between the County, City, and participating jurisdictions
- c. Governance structure with the Authority and appropriate stakeholders

For each project, the Consultant will assist the Authority in updating or developing new policies, Memorandums Of Understanding/Agreement (MOU/MOA), and Standard Operating Procedures (SOP) to implement effective regional interoperability and governance.

### **9.5.3 Acceptance Test Plans (ATP)**

The LMR System Contractor and the LTE System Contractor will prepare detailed system Acceptance Test Plans (ATP) that the Consultant will evaluate during Phase 1 Design Review activities to ensure the system is thoroughly and meticulously tested to system performance criteria. For each project, the Consultant will conduct a series of recommended ATPs that will include:

- a. **Field Acceptance Test Plan** – Verification that the plan tests proper operation, features, interoperability, and reliability of the LMR or LTE System, and backhaul network subsystems for each project, including system infrastructure, subscriber units, and consoles.
- b. **Coverage Acceptance Test Plan (outdoor)** – Verification that the plan is consistent with TSB-88-C; provides objective evaluation the DTVRS for bit error rate (BER) and DAQ of 3.4; specifies pass/fail criteria, test areas, and size of each test tile, as per the technical specifications in the respective contracts.

- c. **Coverage Acceptance Test Plan (indoor)** – Review of the Coverage Acceptance Test Plan (CATP) and verification that the evaluation of mandatory building coverage for each of the LMR and LTE projects will be either 1) service areas, or 2) by verification of indoor coverage for critical structures where the subjective indoor testing must occur. For specific critical structures, the Consultant will verify that the CATP includes a detailed map showing coverage requirements for each location, illustrating portable coverage with clear markings.
- d. **Infrastructure Installation Test Plan** – Verification that the infrastructure installation test plan includes validation of all critical components (e.g., antennas, cabling, tower lighting, backup power, fault monitoring systems), especially those with significant importance to prolonged site operations during critical events or times of emergency response escalation.
- e. **Full System Acceptance Test Plan** – Verification that the full system acceptance test plan contains an adequate subset of each of the other test plans to validate final acceptance and simulates, as closely as possible, the final overall system configuration.

#### **9.5.4 Installation Support Services**

For each project, the Consultant will oversee the new and upgraded equipment delivery installations, checking for quality and verifying activities against approved plans. The Consultant will inventory delivered equipment when it arrives at each site to make sure and verify it is in acceptable condition and suitable for installation.

The Consultant will accompany the LMR System Contractor and the LTE System Contractor at each site to verify that all LMR and LTE systems and equipment are present, properly installed, and that installations conform to industry workmanship standards using site-specific quality checklists. For example, the Consultant will inspect cabling for proper routing, bundling, and labeling. Inspections will also document any engineering design issues that must be dealt with and recommend corrective actions to be taken. The Consultant will update the master punch list according to issues found at each site in each of the LMR and LTE projects.

For each project, site verifications that commenced in Phase 2 will continue to ensure that site support systems (such as power, batteries, and emergency backup systems) are properly installed and operating with the system equipment. Upon notice from the LMR System Contractor or the LTE System Contractor that system installations are ready for final inspection, the Consultant will conduct site inspections to ensure installation requirements and quality standards are met. The Consultant will visit LMR and LTE sites, and dispatch sites and document any deficiencies on the master punch list, and will work as the Authority's agent with the respective LMR and LTE System Contractor to ensure that any required remedial action is taken.

If additional site work is needed in either the LMR or LTE projects, the Consultant will check progress against the implementation schedule to see that potential delays are quickly identified and that schedule delay mitigation plans are developed. They will document inspection results, including digital photos, for each site.

Depending on the site configuration, the following is a list of candidate items for inspection in each of the projects:

- a. Access road
- b. General site conditions
- c. Physical availability of surrounding land space

- d. Perimeter security
- e. Emergency power
- f. AC and/or DC power
- g. Equipment shelter
- h. HVAC
- i. Grounding and lightning suppression
- j. Tower(s) and transmission line support structures
- k. Antennas
- l. Waveguide and dry air systems
- m. Electronics: radio(s), microwave, terrestrial interconnect, ancillary systems
- n. Nearby obstructions that may impact microwave paths and mobile radio coverage
- o. Evidence of approval by local building inspectors
- p. Site availability – specifically if a site is owned by the Authority and/or Authority members, and if the Authority has procured the legal rights to carry out the proposed improvements on the selected site through a Site Access Agreement

#### **9.5.5 Commissioning**

The Consultant will track and supervise the remaining work for the LMR System and LTE System respectively, and all of its parts, subsystems, and components to ensure they are fully functional in their respective service environments and in accordance with specified requirements in the respective contracts. As a prerequisite to final system acceptance in both the LMR and LTE projects, the Consultant will monitor and report the completion status of all master punch list items, further tasking, and deliverables.

Migrating public safety agencies to respective LMR and LTE operations will be one of the most critical portions in the deployment schedule for each project. The Consultant will work closely with the Authority, the participating agencies, and the LMR System Contractor and LTE System Contractor to define a comprehensive, step-by-step migration plan that will have the least impact on each agency's system operations, and minimize disruptions to public safety critical systems.

For each project, the commissioning process will take into consideration how legacy and new equipment can coexist in the same environment to reduce risk and facilitate a smooth transition. As part of that process, the Consultant will assist the Authority in planning and monitoring the decommissioning, removal, and disposal of equipment from legacy radio systems, as necessary, for each project. The Consultant will also continue to maintain the master punch list and ensure that final punch list items are completed prior to final milestone payments being approved. This will include delivery of all as-built and site record documentation that will enable the Authority to maintain and support the LMR and LTE Systems.

#### **9.5.6 System Acceptance**

For each project, the Consultant will oversee the LMR System Contractor's and LTE System Contractor's field acceptance testing. They will observe testing to ensure tests are conducted in accordance with the aforementioned test plans and verify system functionality, performance, reliability, and loading for each project.

The Consultant's system acceptance test oversight methodology for each project will be based on the processes outlined in the respective LMR and LTE QA/QC plans. The Consultant will use the RTM for requirements validation and will coordinate the methodology development and approval with the Authority and the LMR System Contractor and LTE System Contractor respectively. During their review of each of the LMR System and



LTE System Acceptance Test Plans, the Consultant will supplement each with their explicitly-defined verification procedures.

Prior to witnessing any tests for either project, the Consultant will check the Contractors' test equipment metrology to ensure that the equipment has been properly calibrated and that the certification of calibration has not expired. The calibration should be traced to National Institute of Standards and Technology (NIST) recognized standards.

The LMR System Contractor and the LTE System Contractor must update the design documentation according to the accepted, final system for each project. The Consultant will review all final documentation, verifying not only that the documentation accurately reflects the final design, but that the final design implements the requirements captured in the RTM (i.e., meets system performance criteria) and that the master punch list is updated. If retesting is recommended in either project, the Consultant will verify the additional tests are properly executed and passed.

#### **9.5.7 Training**

For each project, training will be necessary for system equipment setup and operation, subscriber use, dispatcher use, and system management/maintenance personnel. The Consultant understands that training can become complex and costly if not standardized, since different agencies will require training on different systems, equipment, operations, and procedures. Therefore, the Consultant will work with the Authority and the LMR System Contractor and LTE System Contractor to identify a combination of standardized formal and on-the-job training requirements for the new systems.

The Consultant will review the LMR System Contractor's and LTE System Contractor's training plans for each project, to ensure compliance with the respective LMR and LTE System Contracts and performance criteria. In addition and for each project, the Consultant will review training plans for items such as the adequacy and best use of the schedule, training equipment, facilities, and presentation materials.

For both the LMR and LTE projects, the Consultant will also identify training requirements that align with the regional governance plans and initiatives, along with national SAFECOM and/or FirstNET requirements and standards. This will include proper training and regular exercises critical to the implementation and maintenance of a successful interoperability solution, including but not limited to:

- a. General orientation on equipment
- b. Multi-agency tabletop exercises
- c. Multi-agency functional exercises
- d. Continued, regular comprehensive regional training

#### **9.5.8 Warranty Services**

For each project and during the warranty period, the Consultant will verify that the LMR System Contractor's and LTE System Contractor's preventive and corrective maintenance plans include a warranty period as well as long-term, quality operations and maintenance functions throughout the LMR System's and LTE System's life-cycles. During the warranty period for each project, the Consultant will evaluate, at a minimum the following maintenance plans for:

- a. Warranties
- b. Infrastructure equipment repair/replacement
- c. Subscriber unit repair

- d. First year system maintenance
- e. Ongoing system maintenance
- f. 24-hour call center
- g. Quality assurance inspection recommendations
- h. Deficiency resolution
- i. Technology upgrades
- j. Software upgrades
- k. Extended support services
- l. Network monitoring/NOC services
- m. Disaster recovery plan
- n. Field engineering
- o. Network, asset, and configuration management
- p. Major system infrastructure component spares and their locations
- q. Transition/termination plans
- r. Maintenance fees

The Consultant will verify, during the warranty period, the LMR System Contractor's and LTE System Contractor's life-cycle planning plan, and verify that LMR System Contractor's and LTE System Contractor's system enhancement and support services capabilities will consist of the following steps:

- a. Needs assessment/problem definition
- b. Feasibility study
- c. Requirements definition
- d. High-level analysis and design
- e. Detailed design
- f. Procurement
- g. Implementation
- h. Testing
- i. Maintenance and operations
- j. Review/refresh (which will generate a new problem definition, thus making the process iterative)

LMR deliverables for this Phase 4 will at a minimum be:

- a. LMR-PH4-9.5.1 Final Test Completion Report
- b. LMR-PH4-9.5.2 Final Training Completion Report
- c. LMR-PH4-9.5.3 Final Acceptance Report
- d. LMR-PH4-9.5.4 Final Warranty Report

## **10 CULTURAL RESOURCES ASSISTANCE**

### **10.1 General**

- a. Consultant shall develop a written plan as a path forward to Memorandum of Agreement (MOA)/geotechnical approval from SHPO .
- b. Consultant shall meet with SHPO to determine path forward to both interim approval to accomplish geotechnical work and documentation required to further the MOA discussion between NTIA and SHPO.
  - i. Consultant shall demonstrate to SHPO how the Authority has corrected the pathway.
  - ii. Consultant shall, in concert with SHPO, determine if the work completed/planned is sufficient to secure geotechnical/MOA approval .

- iii. Consultant shall document (confirm with SHPO) and identify any remaining tasks required to secure the necessary approval(s).
- iv. Consultant shall update the written plan and provide recommendations of feasible alternatives for geotechnical/MOA approval as necessary.
- c. Submit 620/621 forms:
  - i. Consultant shall initially, identify those sites “ready to go” (i.e., that have adequate archaeological work described and a proper building inventory conducted) and begin submitting 620/621 forms and prioritizing on those that SHPO has already reviewed or started to review. The Authority's Environmental Contractor will prepare the forms they deem ready, and provide them to Consultant for initial technical review and a final Quality Assurance (QA)/Quality Control (QC) review.
  - ii. After the first 2 weeks, Consultant shall shift the focus to the list of priority sites developed by this Consultant/Authority.

## **10.2 620/621 Forms**

- a. Consultant shall develop a quick and easy assembly process for the 620/621 forms that includes all authorship, word processing, QC (including QC of Subconsultants work and deliverables), and approval tasks.
- b. Consultant shall create a new field form for use by the archaeologists that better drives the information to be used in the 620 forms (i.e., using multiple choice rather than open-ended questions).
- c. Consultant shall work with the Authority's Environmental Contractor to institute a requirement that all field forms completed by the Authority's Environmental Contractor be submitted daily, reviewed daily, and corrected within 24 hours of the site visit. Consultant shall also ensure that this submission is be done by an individual knowledgeable about the forms and data placement. Consultant shall further confirm and review the initial 20 forms and a select number thereafter to ensure the assembly process is implemented correctly.
- d. Consultant shall create new boilerplate language as needed for FCC Form 620 that captures the concerns SHPO has regarding site data . Consultant shall fully QC the form before initial use which are to include the following:
  - i. A statement of the age of all buildings in the APE. This includes a range of dates if only aerial photo documentation exists, and a more precise date if there is other documentation. All sources must be referenced when a statement is made about a particular building or structure.
  - ii. A statement regarding whether an archaeology survey had been completed for each property, along with a brief description of existing conditions of the property to determine levels of recent disturbance.
- e. Consultant shall ensure that documentation exists for the archaeological and architectural effort:
  - i. What was surveyed (provide documentation of who, where, when, and what found to meet professional standard of care).
  - ii. State the findings, even if negative.
  - iii. Fully document sources of information and statements made, in particular for concluding statements regarding age of structures.
- f. Consultant shall add at least two layers into the 620/621 creation/QC process. One layer of QC should occur after the form has been created (this shall be done by Consultant's senior level technical staff and a generalist comparing against source data for each site). The second should be

post-signature and prior to submission to SHPO (this will be done by Consultant's generalist) to ensure the forms are complete and polished. Consultant shall create a process to get errors/omissions corrected quickly and back into line for submission to SHPO.

- g. Consultant shall ensure that two PI signatures on the 620 forms are secured, one for archaeology the other for architecture.
- h. Consultant shall meet with SHPO to see if it's possible to increase review rate (based on a much improved document).

### **10.3 Architecture**

- a. Consultant's CRM Tech shall obtain reliable data sources for year built data within each LTE site, and where required by SHPO, outside the LTE site in the 0.5 mile indirect APE. Consultant to feed back their success at this within one week. If unsuccessful, Consultant and Authority will assist in identifying data/data sources Consultant shall make a statement that historic aerial photos were the only sources available if no other sources were used.
- b. Consultant shall ascertain the QC processes put into place by CRM Tech, and if applicable, ASM and correct/improve if appropriate. For example, check building inventory vs. count of structures seen using Bing or similar satellite/aerial imagery.
- c. Consultant shall ensure that each structure for each 620/621 form is discussed separately, and a narrative that discusses the date of construction or date range based on the use of aerial photos to document the date of construction is included in the form.
- d. Consultant shall ensure data collected is consistent with what is required by SHPO.
- e. Consultant shall have a conversation with SHPO regarding need for DPR 523 forms for all buildings (i.e., if the resources is better documented t and drive instead to no effect or no adverse effect).
- f. Consultant shall streamline inclusion of building inventories into 620 forms.
- g. Consultant shall clarify the work that needs to be accomplished at site SCH.
- h. Consultant shall ensure that all Subconsultants (e.g. CRM Tech) understands that no sites are "exempt" and in the event of collocation, FCC Form 621 needs to be used (in lieu of form 620).

### **10.4 Archaeology**

- a. Consultant shall compress field schedule by adding archaeologists.
- b. Consultant shall streamline the field forms for archaeology to minimize variability in data collected.
- c. Consultant shall eliminate the disjointedness between field work and inclusion in the 620 forms to minimize opportunity for error.
- d. Consultant shall develop a detailed schedule and timetable for completion of the fieldwork.











LA RICS - Long Term Evolution (LTE) - Schedule and Fee

Schedule - Long Term Evolution (LTE) grid showing phases from Preliminary Phase to Phase V, with highlighted periods for Mobilization, Design, Site Construction, Equipment Purchase, Implementation, Training, and Warranty.

Main resource cost grid with columns for months (Q4-2013 to Q4-2018) and rows for various roles (A, C, J, K, P, J) and individuals (e.g., Bob Doss, Tom Bugbee, Todd Ritchie, Katz Misc., D.Dedhia, Richter Schneider, Grace Lee, Jim Hoyt, D.Herrington, Bruce Palmer).







## LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM AUTHORITY

2525 Corporate Place, Suite 200  
Monterey Park, California 91754  
(323) 881-8291

PATRICK J. MALLON  
EXECUTIVE DIRECTOR

August 21, 2014

Board of Directors  
Los Angeles Regional Interoperable Communications System Authority (the "Authority")

Dear Directors:

### **APPROVE AMENDMENT NO. EIGHT FOR AGREEMENT NO. LA-RICS 007 FOR LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM – LAND MOBILE RADIO SYSTEM**

#### **SUBJECT**

Board approval is requested to 1) purchase portable radios and radio accessories (collectively, "Radio Equipment") under Agreement No. LA-RICS 007 Los Angeles Regional Interoperable Communication System ("LA-RICS") – Land Mobile Radio ("LMR") System, as a contingency plan in the event that the Authority is unable to secure extensions for the State Homeland Security Grant Program ("SHSGP") grants for years 2011, 2012, and 2013 awarded to the Authority; 2) delegate authority to the Executive Director to expend grant allocations repurposed to the Authority, if any, in an amount not to exceed the costs required for the provisioning of Radio Equipment for the Authority's member agencies user base; and 3) delegate authority to the Executive Director to execute the Amendment No. Eight for the purchase of Radio Equipment in substantially similar form to the attached Amendment.

#### **RECOMMENDED ACTIONS**

It is recommended that your Board:

1. Find that approval and execution of Amendment No. Eight for the purchase and use of Radio Equipment for Agreement No. LA-RICS 007 is exempt from review under the California Environmental Quality Act (CEQA) as it is not a project under CEQA pursuant to CEQA Guidelines Sections 15378(b)(2) and (b)(5), and 15061 (b)(3).
2. Approve an increase to the total contract amount by \$3,671,006 increasing the Maximum Contract Sum from \$288,074,669 to \$291,745,675.
3. Approve Amendment No. Eight to Agreement No. LA-RICS 007 for the LMR System, in substantially similar form, to Attachment A, to allow the Authority to purchase the Radio Equipment.

**AGENDA ITEM 4**

4. Delegate authority to the Executive Director to execute Amendment No. Eight to Agreement No. LA-RICS 007 for the LMR System, in substantially similar form to Attachment A.
5. Delegate authority to the Executive Director to expend grant allocations repurposed to the Authority, if any, in an amount not to exceed the costs required for the provisioning of Radio Equipment for the Authority's member agencies user base.

### **BACKGROUND**

The Authority has a remaining balance of \$3,585,218 million in SHSGP grant funds for years 2011, 2012, and 2013 that have a grant performance period ending on August 31, 2014. The Authority has submitted a request to extend the performance periods for these SHSGP grants. However, to date, no extension has been granted to the Authority. If these 2011, 2012, and 2013 SHSGP funds are not spent, the Authority will lose these funds.

In the event that an extension is not granted to the Authority prior to the grant performance period, the Authority has identified a contingency plan to facilitate the spending of these grant funds: the purchase of Radio Equipment for the Authority's member agencies to use on the Authority's early LMR deployment system (Core 1, Core 2, and 8 repeater sites) to establish proof of concept and demonstrate independent utility.

The Authority's preference is to secure the extensions and utilize the grant funds on the originally intended purpose of building out the LMR infrastructure; however, in the face of a loss in grant funds, the Authority believes the purchase of Radio Equipment will benefit the Authority's member agencies by alleviating future member costs associated with participation in the LMR System.

Once the Radio Equipment is purchased and loaned to member agencies, it will have a number of important uses in addition to establishing proof of concept and demonstrating independent utility, including but not limited to, supporting member agencies public safety first responders with communications for day-to-day operations and mutual aid and task force efforts. The Radio Equipment purchases and work will be performed under Agreement No. LA-RICS 007 for the LMR System with Motorola, along with any warranty and repair work on the Radio Equipment.

The Authority will loan member agencies the Radio Equipment via a Memorandum of Understanding (MOU) previously approved by your Board on May 28, 2014. The Radio Equipment purchased will remain property of the Authority, and will be loaned and distributed to member agencies.

The State Homeland Security Grant Program has previously approved the use of grant funds for this purpose.

Further, in the event that SHSGP repurposes any additional grant funds to the Authority, if any, delegated authority is requested to the Executive Director to expend the repurposing of grant funds, in an amount not to exceed the costs required for the provisioning of Radio Equipment for the Authority's member agencies user base.

### **PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION**

Approval of the recommended actions will authorize the Executive Director, on behalf of the Authority, to purchase Radio Equipment for use by the Authority and member agencies. The prices were reviewed and determined to be reasonable by the Authority. Additionally, these actions will find that the purchase and use of Radio Equipment is not a project under CEQA pursuant to CEQA Guidelines Section 15378 (b)(2) and (b)(5), and 15061(b)(3).

### **FISCAL IMPACT/FINANCING**

The Radio Equipment to be purchased under Amendment No. Eight shall be fully reimbursed by the State Homeland Security Grant Program.

### **ENVIRONMENTAL DOCUMENTATION**

Execution of Amendment No. Eight is exempt from review under CEQA because it is not a project as defined in Sections 15378(b)(2) and (b)(5) and 15061(b)(3) of the State CEQA Guidelines. Approval of Amendment No. Eight is an administrative activity of government which will not result in direct or indirect physical changes to the environment. The Authority's purchase and use of the Radio Equipment is categorically exempt from the provisions of CEQA under State CEQA Guidelines because it is also a continuing administrative and maintenance activity, which involves the purchase of equipment/supplies for use on the LMR System. The purchase and use of the Radio Equipment is also exempt from CEQA because CEQA does not apply when it can be seen with certainty that there is no possibility that the purchase and use of Radio Equipment may have a significant effect on the environment.

Upon the Board's approval of the recommended actions, the Authority will file a Notice of Exemption with the County Clerk in accordance with Section 15062 of the State CEQA Guidelines.

### **FACTS AND PROVISIONS/LEGAL REQUIREMENT**

The Authority's counsel has reviewed the recommended actions.

**AGREEMENTS/CONTRACTING**

Upon the Board's approval of the recommended actions, on behalf of the Authority, the Executive Director will have delegated authority to proceed in the manner as described in the recommended actions contained in this letter.

Respectfully submitted,



PATRICK J. MALLON  
EXECUTIVE DIRECTOR

c: Counsel to the Authority

Attachments

**AMENDMENT NUMBER EIGHT**  
**TO AGREEMENT NO. LA-RICS 007**  
**FOR**  
**LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM –**  
**LAND MOBILE RADIO SYSTEM**

**Recitals**

This Amendment Number Eight (together with all exhibits, attachments, and schedules hereto, "Amendment No. 8") is entered into by and between the Los Angeles Regional Interoperable Communications System Authority ("Authority") and Motorola Solutions, Inc. ("Contractor"), effective as of August \_\_\_\_\_, 2014, based on the following recitals:

Authority and Contractor have entered into that certain Agreement No. LA-RICS 007 for Los Angeles Regional Interoperable Communications System ("LA-RICS") – Land Mobile Radio System, dated as of August 15, 2013 (together with all exhibits, attachments, and schedules thereto, all as amended prior to the date hereof, the "Agreement").

The Agreement has been previously amended by Amendment Number One, effective as of September 5, 2013, to exercise the Unilateral Option for all Work pertaining to Phase 1, without the Additive Alternates.

The Agreement has been previously amended by Amendment Number Two, effective as of October 29, 2013, to exercise the Unilateral Option for all Work pertaining to Project Descriptions in Phase 1 for the Bounded Area Coverage Additive Alternate.

The Agreement has been previously amended by Amendment Number Three, effective as of December 19, 2013, to, among other things, exercise the Unilateral Option for all Work pertaining to Contractor's provision and implementation of Specified Equipment (as defined in Amendment Number Three) increasing the Maximum Contract Sum to from \$280,354,954 to \$281,640,184.

The Agreement has been previously amended by Amendment Number Four, effective as of December 19, 2013, to, among other things, provide and implement under Phase 1 certain additional equipment referred to as "Station B Equipment" increasing the Maximum Contract Sum from \$281,640,184 to \$282,809,231.

The Agreement has been previously amended by Amendment Number Five, effective as of March 27, 2014, to, among other things, include license coordination fees, increasing the Maximum Contract Sum from \$282,809,231 to \$282,829,472.

The Agreement has been previously amended by Amendment Number Six, effective as of April 17, 2014, to, among other things, upgrade to the Los Angeles Police Department's Valley Dispatch Center's ("LAPDVDC") Uninterruptible Power Supply



("UPS") to accommodate the installation and deployment of Core 2 at this facility, increasing the Maximum Contract Sum from \$282,829,472 to \$282,897,618.

The Agreement has been previously amended by Amendment Number Seven, effective as of May 8, 2014, to, among other things, purchase portable radios, radio accessories, consolettes, and consoles; and to add a provision to address potential joint obligations of Authority and Contractor under the Antennae Lease Agreement dated April 17, 2014 between the City of Los Angeles, the Authority, and Contractor; increasing the Maximum Contract Sum from \$282,897,618 to \$288,074,669.

Authority and Contractor desire to amend the Agreement to revise Exhibit C.2 (Schedule of Payments Phase 1 – System Design) to reflect the costs for the purchase of additional portable radios and radio accessories as set forth in Attachment A to this Amendment No. 8, which is incorporated by this reference; and to make other certain changes as reflected in this Amendment No. 8, increasing the Maximum Contract Sum by \$3,671,006 from \$288,074,669 to \$291,745,675.

This Amendment No. 8 is authorized under Section 2 (Changes to Agreement) of the Agreement.

NOW THEREFORE, in consideration of the foregoing recitals, all of which are incorporated as part of this Amendment No. 8, and for other valuable consideration, the receipt and sufficiency of which are acknowledged, Authority and Contractor hereby agree as follows:

1. Capitalized Terms; Section References. Capitalized terms used herein without definition (including in the recitals hereto), have the meanings given to such terms in the Base Document. Unless otherwise noted, section references in this Amendment No. 8 refer to sections of the Base Document, as amended by this Amendment No. 8.
2. Authority is purchasing Additional System Hardware consisting of portable radio equipment at the prices and quantities identified in Attachment A (Portable Radio Equipment Specifications) to this Amendment No. 8, which is herein fully incorporated by reference.
3. Amendment to Base Document.
  - 3.1 Section 8.1.1 of the Base Document is deleted in its entirety and replaced with the following:
    - 8.1.1 The "Maximum Contract Sum" under this Agreement is Two Hundred Ninety-One Million, Seven Hundred and Forty-Five Thousand, Six Hundred Seventy-Five Dollars (\$291,745,675), which includes the Contract Sum and all Unilateral Option Sums, as set forth in Exhibit C (Schedule of Payments).

3.2 Section 24.4.1 of the Base Document is deleted in its entirety and replaced with the following:

24.4.1 Except for liability resulting from personal injury, harm to tangible property, or wrongful death, Contractor's total liability to the Authority, whether for breach of contract, warranty, negligence, or strict liability in tort, will be limited in the aggregate to direct damages no greater than Two Hundred Eight-Four Million, Four Hundred Eighty-Six Thousand, Seven Hundred and Three Dollars (\$284,486,703) Notwithstanding the foregoing, Contractor shall not be liable to the Authority for any special, incidental, indirect, or consequential damages.

4. Amendments to Agreement Exhibits.

4.1 Exhibit C.1 (Schedule of Payments – LMR System Payment Summary) to Exhibit C (Schedule of Payments) is deleted in its entirety and replaced with Exhibit C.1 (Schedule of Payments – LMR System Payment Summary) to Exhibit C (Schedule of Payments) attached to this Amendment No. 8, which is incorporated by this reference.

4.2 Exhibit C.2 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments) is deleted in its entirety and replaced with Exhibit C.2 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments) attached to this Amendment No. 8, which is incorporated by this reference.

4.3 Exhibit D (LMR System Maintenance and Warranty), Section 7 (Subscriber Maintenance for Portable Radio Equipment) is deleted in its entirety and replaced with the following:

**7. Subscriber Maintenance for Portable Radio Equipment**

With respect to the portable radio equipment as set forth in Attachment A.1 (Portable Radio Equipment Specifications) and consolettes and consoles as set forth in Attachment A.2 (Consolette/Console Specifications) of Amendment No. 7 and the portable radio equipment set forth in Attachment A of Amendment No. 8, Contractor will provide a built-in warranty period of five (5) years that will meet the minimum requirements set forth in Exhibit D.1 (Statement of Work – Service from the Start – LITE) ("SOW") or the most current version of the SOW, as determined by the Authority. This warranty period shall commence on the date on which the equipment is inventoried and Authority accepts the equipment for payment. Contractor will perform service requests during the five (5) year warranty period as requested by the Authority, unless otherwise directed by the Authority.

Authority and its members may elect to purchase maintenance for this equipment for Years 6, 7 and 8, at the prices set forth in Exhibit C.2 (Schedule of Payments – Phase 1 – System Design). Such maintenance shall be provided by Contractor and will meet the minimum requirements as set forth in Exhibit D.1 (Statement of Work – Service from the Start – LITE) or the most current version of the SOW, as determined by the Authority.

5. This Amendment No. 8 shall become effective as of the date identified in the recitals, which is the date upon which:
  - 5.1 An authorized agent of Contractor has executed this Amendment No. 8;
  - 5.2 Los Angeles County Counsel has approved this Amendment No. 8 as to form;
  - 5.3 The Board of Directors of the Authority has authorized the Executive Director of the Authority, if required, to execute this Amendment No. 8; and
  - 5.4 The Executive Director of the Authority has executed this Amendment No. 8.
6. Except as expressly provided in this Amendment No. 8, all other terms and conditions of the Agreement shall remain the same and in full force and effect.
7. Contractor and the person executing this Amendment No. 8 on behalf of Contractor represent and warrant that the person executing this Amendment No. 8 for Contractor is an authorized agent who has actual authority to bind Contractor to each and every term and condition of this Amendment No. 8, and that all requirements of Contractor to provide such actual authority have been fulfilled.
8. This Amendment No. 8 may be executed in one or more original or facsimile counterparts, all of which when taken together shall constitute one in the same instrument.

\* \* \*

**AMENDMENT NUMBER EIGHT**  
**TO AGREEMENT NO. LA-RICS 007**  
**FOR**  
**LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM –**  
**LAND MOBILE RADIO SYSTEM**

IN WITNESS WHEREOF, the parties hereto have caused this Amendment No. 8 to be executed on their behalf by their duly authorized representatives, effective as of the date first set forth above.

LOS ANGELES REGIONAL  
INTEROPERABLE COMMUNICATIONS  
SYSTEM AUTHORITY

MOTOROLA SOLUTIONS, INC.

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

Patrick J. Mallon  
Executive Director

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

Rick Castaneda  
Vice President & Director

APPROVED AS TO FORM FOR THE LOS  
ANGELES REGIONAL INTEROPERABLE  
COMMUNICATIONS SYSTEM  
AUTHORITY:

RICHARD D. WEISS  
Acting County Counsel

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

Truc L. Moore  
Senior Deputy County Counsel

## LOS ANGELES REGIONAL INTEROPERABLE COMMUNICATIONS SYSTEM (LA-RICS)

## AGREEMENT NO. LA-RICS 007

## PORTABLE RADIO EQUIPMENT SPECIFICATIONS

Item	Quantity	Nomenclature	Description	List	Discount	Contract	Extended
<b>APX 7000XE Portable Radio Dual Band With UHF R2 and 700 MHz Enabled</b>							
1	400	H49TGD9PW1AN	APX7000XE DIGITAL PORTABLE RADIO	\$3,400.00	25.00%	\$2,550.00	\$1,020,000.00
1a	400	QA00572	ADD: UHF RANGE 2 PRIMARY BAND	\$0.00	25.00%	\$0.00	\$0.00
1b	400	QA00573	ADD: 700/800MHz SECONDARY BAND	\$0.00	25.00%	\$0.00	\$0.00
1c	400	QA00577	ADD: DUAL DISPLAY AND FULL KEYPAD	\$500.00	25.00%	\$375.00	\$150,000.00
1d	400	QA00579	ADD: ENABLE DUAL BAND OPERATION	\$1,000.00	25.00%	\$750.00	\$300,000.00
1c	400	Q806	ADD: APCO DIGITAL CAI OPERATION	\$515.00	25.00%	\$386.25	\$154,500.00
1e	400	Q361	ADD: P25 9600 BAUD TRUNKING; MUST also order H38 & Q806. INCLUDED at "NO Charge" Q173-OminLink. The APX 7000 digital radios require Advanced System Keys (ASK- DVN4046A) to be configured to operate on a trunking system.	\$300.00	25.00%	\$225.00	\$90,000.00
1f	400	H38	ADD: SMARTZONE OPERATION; A SOFTWARE or HARDWARE KEY or WACN KEY is REQUIRED to be purchased with any APX Radio operating in trunking. HARDWARE KEY or WACN KEY will still REQUIRE a DVN4046 to be purchased.	\$1,500.00	25.00%	\$1,125.00	\$450,000.00
1g	400	QA01749	ADD: ADVANCED SYSTEM KEY - SOFTWARE KEY	\$0.00	25.00%	\$0.00	\$0.00
1h	400	H869	ENH: MULTIKEY	\$330.00	50.00%	\$165.00	\$66,000.00
1j	400	Q15	ENH: AES/DES,DES-XL,DES-OFB; NOT compatible with Q629 or Q625. Must order multikey if you want to use both algorithms.	\$799.00	25.00%	\$599.25	\$239,700.00
1k	400	QA00782	ENH: APX GPS ACTIVATION	\$100.00	50.00%	\$50.00	\$20,000.00
1l	400	G996	ADD: PROGRAMMING OVER P25 (OTAP) POP25 requires AES encryption for ASTRO Conventional operation. Must have IV&D (Q947) enabled. To do in field POP25 programming must use Advanced System Key (DVN4046A)	\$100.00	25.00%	\$75.00	\$30,000.00

Item	Quantity	Nomenclature	Description	List	Discount	Contract	Extended
1m	400	Q947	ADD: RADIO PACKET DATA : This option is only capable of being used on P25 Digital Conventional and 9600 Trunking Systems. This option is required for IV & D operation.	\$200.00	50.00%	\$100.00	\$40,000.00
1n	400	QA00580	ADD: TDMA OPERATION: Requires Q806 (Digital), H38 (Smartzone), Q361 (P25) to be ordered. any APX Radio operating in trunking.	\$400.00	50.00%	\$200.00	\$80,000.00
1o	400	QA01837	ALT: APX 7000 IMPRES BATT IMP STD IP67 LIION 2900MAH BATTERY	\$100.00	25.00%	\$75.00	\$30,000.00
1p	400	QA03400	REMOVE FCC MANDATE EXEMPTION	\$0.00	0.00%	\$0.00	\$0.00
1q	400	Q887	ENH:5 YEAR WARRANTY PERIOD (SERVICE FROM THE START - LITE)	\$206.00	0.00%	\$206.00	\$82,400.00
<b>APX 7000XE Portable Radio Dual Band With UHF R2 and VHF Enabled</b>							
2	54	H49TGD9PW1AN	APX7000XE DIGITAL PORTABLE RADIO	\$3,400.00	25.00%	\$2,550.00	\$137,700.00
2a	54	QA00572	ADD: UHF RANGE 2 PRIMARY BAND	\$0.00	25.00%	\$0.00	\$0.00
2b	54	QA00574	ADD: VHF SECONDARY BAND	\$0.00	25.00%	\$0.00	\$0.00
2c	54	QA00577	ADD: DUAL DISPLAY AND FULL KEYPAD	\$500.00	25.00%	\$375.00	\$20,250.00
2d	54	QA00579	ADD: ENABLE DUAL BAND OPERATION	\$1,000.00	25.00%	\$750.00	\$40,500.00
2e	54	Q806	ADD: APCO DIGITAL CAI OPERATION	\$515.00	25.00%	\$386.25	\$20,857.50
2f	54	Q361	H38 & Q806. INCLUDED at "NO Charge" Q173-OminLink. The APX 7000 digital radios require Advanced System Keys (ASK- DVN4046A) to be configured to operate on a trunking system.	\$300.00	25.00%	\$225.00	\$12,150.00
2g	54	H38	ADD: SMARTZONE OPERATION; A SOFTWARE or HARDWARE KEY or WACN KEY is REQUIRED to be purchased with any APX Radio operating in trunking. HARDWARE KEY or WACN KEY will still REQUIRE a DVN4046 to be purchased.	\$1,500.00	25.00%	\$1,125.00	\$60,750.00
2h	54	QA01749	ADD: ADVANCED SYSTEM KEY - SOFTWARE KEY	\$0.00	25.00%	\$0.00	\$0.00
2i	54	H869	ENH: MULTIKEY	\$330.00	50.00%	\$165.00	\$8,910.00
2j	54	Q15	ENH: AES/DES,DES-XL,DES-OFB; NOT compatible with Q629 or Q625. Must order multikey if you want to use both algorithms.	\$799.00	25.00%	\$599.25	\$32,359.50
2k	54	QA00782	ENH: APX GPS ACTIVATION	\$100.00	50.00%	\$50.00	\$2,700.00

Item	Quantity	Nomenclature	Description	List	Discount	Contract	Extended
2l	54	G996	ADD: PROGRAMMING OVER P25 (OTAP) POP25 requires AES encryption for ASTRO Conventional operation. Must have IV&D (Q947) enabled. To do in field POP25 programming must use Advanced System Key (DVN4046A	\$100.00	25.00%	\$75.00	\$4,050.00
2m	54	Q947	ADD: RADIO PACKET DATA : This option is only capable of being used on P25 Digital Conventional and 9600 Trunking Systems. This option is required for IV & D operation.	\$200.00	50.00%	\$100.00	\$5,400.00
2n	54	QA00580	ADD: TDMA OPERATION: Requires Q806 (Digital), H38 (Smartzone), Q361 (P25) to be ordered. any APX Radio operating in trunking.	\$400.00	50.00%	\$200.00	\$10,800.00
2o	54	QA01837	ALT: APX 7000 IMPRES BATT IMP STD IP67 LIION 2900MAH BATTERY	\$100.00	25.00%	\$75.00	\$4,050.00
2p	54	QA03400	REMOVE FCC MANDATE EXEMPTION	\$0.00	0.00%	\$0.00	\$0.00
2q	54	Q887	ENH:5 YEAR WARRANTY PERIOD (SERVICE FROM THE START - LITE)	\$206.00	0.00%	\$206.00	\$11,124.00
<b>APX Radio Accessories</b>							
3	459	NNTN7038A	APX 7000 IMPRES BATT IMP STD IP67 LIION 2900MAH BATTERY	\$140.00	33.00%	\$93.80	\$43,054.20
4	454	NNTN7080	SINGLE UNIT IMPRESS BATTERY CHARGER	\$125.00	15.00%	\$106.25	\$48,237.50
5	20	NNTN7073B	IMPRES SIX-UNIT CHARGER WITH DISPLAY MODULES	\$1,350.00	15.00%	\$1,147.50	\$22,950.00
6	454	PMMN4069A	IMPRES REMOTE SPEAKER MICROPHONE 3.5MM AUDIO JACK	\$110.00	15.00%	\$93.50	\$42,449.00

<b>Sub Total</b>	<b>\$3,280,891.70</b>
<b>Tax</b>	<b>\$286,863.09</b>
<b>Shipping</b>	<b>\$4,000.00</b>
<b>Grand Total Amount</b>	<b><u>\$3,571,754.79</u></b>

## EXHIBIT C.1 - SCHEDULE OF PAYMENTS

### LMR SYSTEM PAYMENT SUMMARY

Summary	Unilateral Option Sum	Contract Sum - Full Payable Amount	10% Holdback Amount	Payment Minus 10% Holdback Amount
Phase 1 <sup>(Note 1)</sup>	\$ -	39,972,211	\$ 3,041,927	\$ 36,930,285
Phase 2	\$ 41,395,106	\$ -	\$ 4,030,120	\$ 37,364,985
Phase 3	\$ 50,206,011	\$ -	\$ 4,929,128	\$ 45,276,883
Phase 4	\$ 29,619,390	\$ -	\$ 2,899,217	\$ 26,720,173
<b>SUBTOTAL (Phases 1 to 4):</b>	<b>\$ 121,220,506</b>	<b>39,972,211</b>	<b>\$ 14,900,392</b>	<b>\$ 146,292,326</b>
Phase 5 (15 Years)	\$ 55,898,518	\$ -	\$ -	\$ 55,898,518
<b>TOTAL (Phases 1 to 5):</b>	<b>\$ 177,119,025</b>	<b>\$ 39,972,211</b>	<b>\$ 14,900,392</b>	<b>\$ 202,190,844</b>
Bounded Area Coverage Additive Alternate <sup>(Note 1)</sup>	\$ 19,109,375		\$ 1,910,937	\$ 17,198,437
Mandatory Building Coverage Additive Alternate	\$ 29,828,448	\$ -	\$ 2,982,845	\$ 26,845,603
Metrorail Coverage Additive Alternate	\$ 4,792,260	\$ -	\$ 479,226	\$ 4,313,034
LMR System Maintenance for Additive Alternates	\$ 19,620,355	\$ -	\$ 1,962,036	\$ 17,658,320
Source Code Software Escrow	\$ 1,304,000	\$ -	\$ 130,400	\$ 1,173,600
<b>TOTAL UNILATERAL OPTION SUM / TOTAL CONTRACT SUM:</b>	<b>\$ 251,773,462</b>	<b>\$ 39,972,211</b>	<b>\$ 22,365,835</b>	<b>\$ 269,379,838</b>
<b>MAXIMUM CONTRACT SUM (Total Unilateral Option Sum plus Total Contract Sum):</b>	<b>\$291,745,675</b>			

**Note 1:** The cost for the Project Descriptions for the Bounded Area Coverage only are reflected in Exhibit C.2 (Phase 1 - System Design) as amended and restated in Amendment No. 2., and included (\$173, 110) in Phase 1 Contract Sum - Full Payable Amount. The balance of the remaining Unilateral Option Sum for Bounded Area Coverage Additive Alternate Work is reflected in Exhibit C.7 (Bounded Area Coverage Additive Alternate).



## EXHIBIT C.2 - SCHEDULE OF PAYMENTS

### PHASE 1 - SYSTEM DESIGN

Deliverable/Task/ Section No. <small>(Exhibit A, Exhibit B, or Base Document)</small>	Deliverable	Unilateral Option Sum <small>(Notes 3, 5, 6, 7, 8,9)</small>	Contract Sum Payable Amount <small>(Notes 3, 4, 5, 6, 7, 8,9)</small>	10% Holdback Amount	Payable Amount Less 10% Holdback
A.1.1	Project Management Staffing Plan Delivered	-	Included	\$ -	\$ -
A.1.2	Overview and Scope Delivered	-	Included	\$ -	\$ -
A.1.3	Communications Plan Delivered	-	\$ 67,233	\$ 6,723	\$ 60,509
A.1.4	Initial Integrated Master Schedule Delivered	-	\$ 89,644	\$ 8,964	\$ 80,679
A.1.5	Documentation Plan Delivered	-	Included	\$ -	\$ -
A.1.6	Quality Control Plan Delivered	-	\$ 67,233	\$ 6,723	\$ 60,509
A.1.7	Change Order/Change Management Plan Delivered	-	Included	\$ -	\$ -
A.1.8	Initial Risk Management Plan Delivered	-	\$ 89,644	\$ 8,964	\$ 80,679
A.1	Project Management Plan - Final	-	\$ 112,055	\$ 11,205	\$ 100,849
B.1.6	FCC License and Application Forms	-	Included	\$ -	\$ -
B.1.12	Coverage Modeling Tool and Training	-	Included	\$ -	\$ -
B.1.14.1	Detailed Project Description - 50% of sites	-	\$ 1,368,583	\$ 136,858	\$ 1,231,724
B.1.14.1	Detailed Project Description - Final 50% of Sites	-	\$ 1,368,583	\$ 136,858	\$ 1,231,724
B.1.14.2	RF Emission Safety Report Delivered	-	Included	\$ -	\$ -
B.1.14.3.3.29.1	DTVRS Design – Digital Trunked Voice Radio Subsystem:	-	-	-	-
B.1.14.3.3.29.1	80% DTVRS Design – Digital Trunked Voice Radio Subsystem	-	\$ 1,965,745	-	\$ 1,965,745
B.1.14.3.3.29.1	20% DTVRS Design – Digital Trunked Voice Radio Subsystem	-	\$ 491,436	\$ 245,718	\$ 245,718
B.1.14.3.3.29.2	ACVRS Design – Analog Conventional Voice Radio Subsystem:	-	-	-	-
B.1.14.3.3.29.2	80% ACVRS Design – Analog Conventional Voice Radio Subsystem	-	\$ 446,491	-	\$ 446,491
B.1.14.3.3.29.2	20% ACVRS Design – Analog Conventional Voice Radio Subsystem	-	\$ 111,623	\$ 55,811	\$ 55,812
B.1.14.3.3.29.3	LARTCS Design – Los Angeles Regional Tactical Communications Subsystem:	-	-	-	-
B.1.14.3.3.29.3	80% LARTCS Design – Los Angeles Regional Tactical Communications Subsystem	-	\$ 486,144	-	\$ 486,144
B.1.14.3.3.29.3	20% LARTCS Design – Los Angeles Regional Tactical Communications Subsystem	-	\$ 121,535	\$ 60,768	\$ 60,767
B.1.14.3.3.29.4	NMDN Design – Narrowband Mobile Data Network	-	-	-	-
B.1.14.3.3.29.4	80% NMDN Design – Narrowband Mobile Data Network	-	\$ 113,646	-	\$ 113,646
B.1.14.3.3.29.4	20% NMDN Design – Narrowband Mobile Data Network	-	\$ 28,412	\$ 14,206	\$ 14,206
B.1.14.3.3.29.5	Consoles Design	-	Included	-	-
B.1.14.3.3.29.6	Logging Recorder Description	-	Included	-	-
B.1.14.3.3.29.7	Site Interconnection/Backhaul Subsystem Description:	-	-	-	-
B.1.14.3.3.29.7	80% Site Interconnection/Backhaul Subsystem Description:	-	\$ 170,323	-	\$ 170,323
B.1.14.3.3.29.7	20% Site Interconnection/Backhaul Subsystem Description:	-	\$ 42,581	\$ 21,290	\$ 21,290
B.1.14.3.3.29.8	System Management and Monitoring Subsystem Description	-	Included	-	-
B.1.14.3.3.29.9	Inventory and Maintenance Tracking Subsystem Description	-	Included	-	-
B.1.14.3	LMR Final System Design Approval <sup>(Note 1)</sup>	-	\$ 757,702	\$ 75,770	\$ 681,932
B.1.14.5	Site Design Review Packages 75% Zoning Submittal by Site <sup>(Note 2)</sup>	-	-	\$ -	\$ -
B.1.14.5.Site 1	Baldwin Hills	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 2	Black Jack Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 3	Bald Mountain	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 4	Blue Rock	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 5	Burnt Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 6	Beverly Glen	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 7	Compton Court Building	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 8	Century Plaza	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 9	Claremont	-	\$ 7,138	\$ 714	\$ 6,424

## EXHIBIT C.2 - SCHEDULE OF PAYMENTS

### PHASE 1 - SYSTEM DESIGN

Deliverable/Task/ Section No. <small>(Exhibit A, Exhibit B, or Base Document)</small>	Deliverable	Unilateral Option Sum <small>(Notes 3, 5, 6, 7, 8,9)</small>	Contract Sum Payable Amount <small>(Notes 3, 4, 5, 6, 7, 8,9)</small>	10% Holdback Amount	Payable Amount Less 10% Holdback
B.1.14.5.Site 10	Castro Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 11	Dakin Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 12	El Segundo PD	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 13	Encinal 1 (Fire Camp)	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 14	Green Mountain	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 15	Hauser Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 16	Johnstone Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 17	FS 28	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 18	FS 56	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 19	FS 71	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 20	FS 72	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 21	FS 77	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 22	FS 84	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 23	FS 91	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 24	FS 99	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 25	FS 119	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 26	FS 144	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 27	FS 149	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 28	FS 157	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 29	FS 169	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 30	CP 9	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 31	Del Valle Training	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 32	LA City Hall	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 33	Lower Blue Ridge	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 34	DWP Sylmar Water Ladder	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 35	Magic Mountain	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 36	Mount Disappointment	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 37	Mount Lee	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 38	Mira Loma Facility	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 39	Mount McDill	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 40	Mount Lukens	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 41	Mount Thom	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 42	Mount Washington	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 43	Monte Vista (Star Center)	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 44	Oat Mountain	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 45	Oat Mountain	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 46	Oat Mountain Nike	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 47	Puente Hills	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 48	Portal Ridge	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 49	Pomona 1620 Hillcrest	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 50	Redondo Beach PD	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 51	Rolling Hills Transmit	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 52	Rio Hondo	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 53	City Hall	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 54	San Augustine	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 55	San Dimas	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 56	Signal Hill	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 57	San Pedro Hill	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 58	Saddle Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 59	Sunset Ridge	-	\$ 7,138	\$ 714	\$ 6,424

## EXHIBIT C.2 - SCHEDULE OF PAYMENTS

### PHASE 1 - SYSTEM DESIGN

Deliverable/Task/ Section No. <small>(Exhibit A, Exhibit B, or Base Document)</small>	Deliverable	Unilateral Option Sum <small>(Notes 3, 5, 6, 7, 8,9)</small>	Contract Sum Payable Amount <small>(Notes 3, 4, 5, 6, 7, 8,9)</small>	10% Holdback Amount	Payable Amount Less 10% Holdback
B.1.14.5.Site 60	San Vicente Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 61	Southwest Area Station	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 62	Topanga Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 63	Tejon Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 64	Tower Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 65	Verdugo Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 66	Walker Drive	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 67	Whittaker Middle Peak	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 68	100 Wilshire	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 69	Whittaker Ridge	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 70	77TH Street Area Complex	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 71	Devonshire Area station	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 72	L.A. County Fire Command	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.5.Site 73	Valley Dispatch Center	-	\$ 7,138	\$ 714	\$ 6,424
B.1.14.6	Permit Approval by Site <sup>(Note 2)</sup>	-	-	\$ -	\$ -
B.1.14.6.Site 1	Baldwin Hills	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 2	Black Jack Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 3	Bald Mountain	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 4	Blue Rock	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 5	Burnt Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 6	Beverly Glen	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 7	Compton Court Building	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 8	Century Plaza	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 9	Claremont	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 10	Castro Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 11	Dakin Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 12	El Segundo PD	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 13	Encinal 1 (Fire Camp)	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 14	Green Mountain	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 15	Hauser Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 16	Johnstone Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 17	FS 28	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 18	FS 56	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 19	FS 71	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 20	FS 72	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 21	FS 77	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 22	FS 84	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 23	FS 91	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 24	FS 99	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 25	FS 119	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 26	FS 144	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 27	FS 149	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 28	FS 157	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 29	FS 169	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 30	CP 9	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 31	Del Valle Training	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 32	LA City Hall	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 33	Lower Blue Ridge	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 34	DWP Sylmar Water Ladder	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 35	Magic Mountain	-	\$ 2,379	\$ 238	\$ 2,141

## EXHIBIT C.2 - SCHEDULE OF PAYMENTS

### PHASE 1 - SYSTEM DESIGN

Deliverable/Task/ Section No. <small>(Exhibit A, Exhibit B, or Base Document)</small>	Deliverable	Unilateral Option Sum <small>(Notes 3, 5, 6, 7, 8,9)</small>	Contract Sum Payable Amount <small>(Notes 3, 4, 5, 6, 7, 8,9)</small>	10% Holdback Amount	Payable Amount Less 10% Holdback
B.1.14.6.Site 36	Mount Disappointment	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 37	Mount Lee	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 38	Mira Loma Facility	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 39	Mount McDill	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 40	Mount Lukens	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 41	Mount Thom	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 42	Mount Washington	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 43	Monte Vista (Star Center)	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 44	Oat Mountain	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 45	Oat Mountain	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 46	Oat Mountain Nike	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 47	Puente Hills	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 48	Portal Ridge	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 49	Pomona 1620 Hillcrest	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 50	Redondo Beach PD	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 51	Rolling Hills Transmit	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 52	Rio Hondo	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 53	City Hall	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 54	San Augustine	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 55	San Dimas	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 56	Signal Hill	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 57	San Pedro Hill	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 58	Saddle Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 59	Sunset Ridge	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 60	San Vicente Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 61	Southwest Area Station	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 62	Topanga Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 63	Tejon Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 64	Tower Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 65	Verdugo Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 66	Walker Drive	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 67	Whittaker Middle Peak	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 68	100 Wilshire	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 69	Whittaker Ridge	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 70	77TH Street Area Complex	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 71	Devonshire Area station	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 72	L.A. County Fire Command	-	\$ 2,379	\$ 238	\$ 2,141
B.1.14.6.Site 73	Valley Dispatch Center	-	\$ 2,379	\$ 238	\$ 2,141
B.1.15	Inventory and Maintenance Tracking Subsystem	-	\$ 974,026	\$ 97,403	\$ 876,623
	Project Management for Phase 1 – System Design Monthly Reports	-	Included	\$ -	\$ -
Base.22.3.2	Performance Bond for Phase 1 – System Design	-	\$ 29,774	\$ -	\$ 29,774
	Total Lease Costs for Phase 1 – System Design	-	N/A	\$ -	
Base.22.2.1	Liability Insurance (General and Professional)	-	\$ 527,500	\$ -	\$ 527,500
<b>Subtotal for Phase 1:</b>		<b>\$ -</b>	<b>\$ 10,124,649</b>	<b>\$ 956,737</b>	<b>\$ 9,167,911</b>
<b>CORE 1 AND REPEATER SITES</b>					
B.3.2 to B.3.6	Core 1 Hardware and Software	-	\$ 11,645,162	\$ 1,164,516	\$ 10,480,645
	Core T1 Interface Equipment	-	\$ 49,878	\$ 4,988	\$ 44,890
	NMS AC Power	-	\$ 1,308	\$ 131	\$ 1,177

## EXHIBIT C.2 - SCHEDULE OF PAYMENTS

### PHASE 1 - SYSTEM DESIGN

Deliverable/Task/ Section No. <small>(Exhibit A, Exhibit B, or Base Document)</small>	Deliverable	Unilateral Option Sum <small>(Notes 3, 5, 6, 7, 8,9)</small>	Contract Sum Payable Amount <small>(Notes 3, 4, 5, 6, 7, 8,9)</small>	10% Holdback Amount	Payable Amount Less 10% Holdback
	FCC License Application Preparation	-	\$ 7,500	\$ 750	\$ 6,750
	Remote Site AC Power	-	\$ 7,848	\$ 785	\$ 7,063
B.3.2 to B.3.6	Five DTVRS UHF 11 Channel ASTRO 25 Sites	-	\$ 1,144,758	\$ 114,476	\$ 1,030,283
B.3.2 to B.3.6	Three DTVRS 700 MHz 6 Channel ASTRO 25 Sites	-	\$ 404,440	\$ 40,444	\$ 363,996
B.3.2 to B.3.6	Three MCC 7500 Consoles for DTVRS	-	\$ 197,074	\$ 19,707	\$ 177,366
C.14	Portable Radio Upgrade Kits (2009 UASI Funds)	-	\$ 65,800	\$ 6,580	\$ 59,220
C.14	Portable Radio Upgrade Kits (2010 UASI Funds)	-	\$ 296,100	\$ 29,610	\$ 266,490
B.4.2.3	Installation, Optimization, Staging and Testing for Core 1 and Repeater Sites	-	\$ 463,818	\$ 46,382	\$ 417,436
Base.22.3.2	Performance Bond for Core 1 and Repeater Sites	-	\$ 89,801	-	\$ 89,801
<b>Subtotal for Core 1 and Repeater Sites:</b>		<b>\$ -</b>	<b>\$ 14,373,486</b>	<b>\$ 1,428,369</b>	<b>\$ 12,945,118</b>
<b>CORE 2</b>					
B.3.2 to B.3.6	Core 2 Hardware	-	\$ 3,650,360	\$ 365,036	\$ 3,285,324
B.4.2.3	Installation, Optimization, Staging and Testing for Core 2	-	\$ 301,757	\$ 30,176	\$ 271,581
Base.22.3.2	Performance Bond for Core 2	-	\$ 24,663	-	\$ 24,663
<b>LAPDVDC Uninterruptible Power Supply (UPS)</b>					
	Eaton 9130 2000 Rackmount; 120V, 50/60Hz; 2000VA/1800W	-	\$ 27,101	\$ 2,710	\$ 24,391
	Eaton 9130 2000/30000 EBM Rack	-	\$ 12,152	\$ 1,215	\$ 10,937
	Two-Post Rack Mounting Rail Kit	-	\$ 3,052	\$ 305	\$ 2,747
	Racks 7.5 Foot	-	\$ 863	\$ 86	\$ 777
	MSI Design and Implementation Services	-	\$ 24,978	\$ 2,498	\$ 22,480
<b>Subtotal for Core 2 and LAPDVDC UPS:</b>		<b>\$ -</b>	<b>\$ 4,044,926</b>	<b>\$ 402,026</b>	<b>\$ 3,642,900</b>
<b>SYSTEM ON WHEELS</b>					
	System on Wheels (SOW)	-	\$ -	\$ -	\$ -
	SOW - 95' MAST, 8' X 16' WALK-IN SHELTER	-	\$ 468,439	\$ 46,844	\$ 421,595
	DTVRS - ASTRO Site Repeaters (ASR)	-	\$ 408,816	\$ 40,882	\$ 367,934
	Core Licenses for 700/UHF ASR Sites	-	\$ 127,748	\$ 12,775	\$ 114,973
	Mobile Meshed VSAT Satellite System & Installation	-	\$ 126,233	\$ 12,623	\$ 113,610
	MSI Design and Implementation Services	-	\$ 81,116	\$ 8,112	\$ 73,004
Base.22.3.2	Performance Bond for SOW	-	\$ 6,345	-	\$ 6,345
<b>Subtotal for System on Wheels:</b>		<b>\$ -</b>	<b>\$ 1,218,696</b>	<b>\$ 121,235</b>	<b>\$ 1,097,461</b>
<b>STATION B EQUIPMENT</b>					
	DTVRS - ASTRO Site Repeaters (ASR):	\$ -	\$ 585,803	\$ 58,580	\$ 527,223
	700 MHz ASR - 6 Channel (Phase 1/Phase 2)	\$ -	\$ -	\$ -	\$ -
	UHF ASR - 11 Channel (Phase 1/Phase 2)	\$ -	\$ -	\$ -	\$ -
	Core License Upgrades for ASR Sites	\$ -	\$ 149,548	\$ 14,955	\$ 134,593
	MOTOBIDGE GX Communication Gateway	\$ -	\$ 174,329	\$ 17,433	\$ 156,896
	Point-To-Point 4.9 GHz Backhaul	\$ -	\$ 26,748	\$ 2,675	\$ 24,073
	Mobile Meshed VSAT Satellite System & Installation	\$ -	\$ 126,233	\$ 12,623	\$ 113,610
	MSI Design and Implementation Services	\$ -	\$ 99,820	\$ 9,982	\$ 89,838
Base.22.3.2	Performance Bond for Station B Equipment	\$ -	\$ 6,566	-	\$ 6,566
<b>Subtotal for Station B Equipment:</b>		<b>\$ -</b>	<b>\$ 1,169,047</b>	<b>\$ 116,248</b>	<b>\$ 1,052,799</b>
<b>PROJECT DESCRIPTIONS FOR BOUNDED AREA COVERAGE IN PHASE 1</b>					
B.1.14.1	Detailed Project Description for Bounded Area Coverage at the following Sites: <small>(Note 4)</small>	-	-	-	-
	Century Plaza	-	\$ 9,674	\$ 967	\$ 8,707
	LAC/HARBOR+UCLA MEDICAL CENTER	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS30	-	\$ 11,674	\$ 1,167	\$ 10,507

## EXHIBIT C.2 - SCHEDULE OF PAYMENTS PHASE 1 - SYSTEM DESIGN

Deliverable/Task/ Section No. <small>(Exhibit A, Exhibit B, or Base Document)</small>	Deliverable	Unilateral Option Sum <small>(Notes 3, 5, 6, 7, 8,9)</small>	Contract Sum Payable Amount <small>(Notes 3, 4, 5, 6, 7, 8,9)</small>	10% Holdback Amount	Payable Amount Less 10% Holdback
	FS 51	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 151	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 164	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 173	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 005	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 079	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 084	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 088	-	\$ 11,674	\$ 1,167	\$ 10,507
	FS 095	-	\$ 11,674	\$ 1,167	\$ 10,507
	Carson	-	\$ 11,674	\$ 1,167	\$ 10,507
	San Pedro City Hall	-	\$ 11,674	\$ 1,167	\$ 10,507
	West Hollywood Sheriff Station	-	\$ 11,674	\$ 1,167	\$ 10,507
<b>Total for Bounded Area Coverage Project Descriptions:</b>		-	<b>\$ 173,110</b>	<b>\$ 17,311</b>	<b>\$ 155,799</b>
<b>LICENSE COORDINATION FEES FOR REPEATER SITES</b>					
	License Coordination Fees	-	\$ 20,240	\$ -	\$ 20,240
<b>PORTABLE RADIO EQUIPMENT, CONSOLETTES, &amp; CONSOLES (AMENDMENT 7)</b>					
	APX 7000XE Portable Radios (450 Dual Band with UHF and 700 MHz Enabled and 150 Dual Band with UHF and VHF MHz Enabled) (Total Quantity 600) and Radio Accessories - Refer to Amendment 7, Attachment A.1, for specifications and a detailed cost breakdown	-	\$ 4,459,044	-	4,459,044
	Subscriber Maintenance for 600 APX 7000XE Portable Radios Beyond Initial 5 Year Warranty Period (Year 6, Year 7, Year 8 at \$37,800 per year) (Service from the Start - LITE)	-	\$ 113,400	-	113,400
	APX Console/ APX 7500 Control Station - Refer to Amendment 7, Attachment A.2, for specifications and a detailed cost breakdown.	-	\$ 216,215	-	216,215
	Subscriber Maintenance for 20 APX7500 Control Stations Beyond the Initial 5 Year Warranty Period (Year 6, Year 7, Year 8 at \$1,908 per year) (Service from the Start - LITE)	-	\$ 5,724	-	5,724
	Subscriber Maintenance for 10 APX 7500 Consolettes Beyond the Initial 5 Year Warranty Period (Year 6, Year 7, Year 8 at \$954 per year) (Service from the Start - LITE)	-	\$ 2,862	-	2,862
	MC7500 Console - Refer to Amendment 7, Attachment A.3, for specifications and a detailed cost breakdown.	-	\$ 354,313	-	354,313
	Bridge Warranty for NMS & Console Equipment - Refer to Amendment 7, Attachment A.3, for specifications and a detailed cost breakdown.	-	\$ 25,493	-	25,493
<b>Total for Portable Radio Equipment, Consolettes, &amp; Consoles:</b>		-	<b>\$ 5,177,051</b>	-	<b>5,177,051</b>
<b>PORTABLE RADIO EQUIPMENT (AMENDMENT 8)</b>					
	APX 7000XE Portable Radios (400 Dual Band with UHF and 700 MHz Enabled and 54 Dual Band with UHF and VHF MHz Enabled) (Total Quantity 454) and Radio Accessories - Refer to Amendment 8, Attachment A, for specifications and a detailed cost breakdown	-	\$ 3,571,755	-	<b>\$3,571,755</b>
	Subscriber Maintenance for 454 APX 7000XE Portable Radios Beyond Initial 5 Year Warranty Period (Year 6, Year 7, Year 8 at \$28,602 per year) (Service from the Start - LITE)	-	\$ 85,806	-	<b>\$ 85,806</b>
	Performance Bond for Portable Radio Equipment	-	\$ 13,445	-	<b>\$ 13,445</b>
<b>Total for Portable Radio Equipment:</b>		-	<b>\$ 3,671,006</b>	-	<b>\$3,671,006</b>
<b>Total for Phase 1 - System Design</b>		<b>\$ -</b>	<b>\$ 39,972,211</b>	<b>\$ 3,041,927</b>	<b>\$ 36,930,285</b>

## EXHIBIT C.2 - SCHEDULE OF PAYMENTS

### PHASE 1 - SYSTEM DESIGN

Deliverable/Task/ Section No. <small>(Exhibit A, Exhibit B, or Base Document)</small>	Deliverable	Unilateral Option Sum <small>(Notes 3, 5, 6, 7, 8,9)</small>	Contract Sum Payable Amount <small>(Notes 3, 4, 5, 6, 7, 8,9)</small>	10% Holdback Amount	Payable Amount Less 10% Holdback
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**Note 1:** Should a Site fall out for permitting reasons, Contractor will redo the Final System Design at no charge to the Authority.

**Note 2:** 75% will occur at submittal for planning review. The remaining 25% will be paid upon receipt of construction permit.

**Note 3:** Pursuant to Amendment No. One, effective as of September 5, 2013, the Authority exercised the Unilateral Option for all work pertaining to Phase 1. In connection therewith, the Unilateral Option Sum for Phase 1 of \$29,266,721 was converted into a Contract Sum.

**Note 4:** Pursuant to Amendment No. Two, effective as of October 29, 2013, the Authority exercised the Unilateral Option for all work pertaining to Bounded Area Coverage Project Descriptions for Phase 1. In connection therewith, the Unilateral Option Sum for Bounded Area Coverage Project Descriptions for Phase 1 in the amount of \$173, 110 was converted into a Contract Sum. The cost for the Project Descriptions for the Bounded Area Coverage only are reflected in Exhibit C.2 (Phase 1 - System Design) as amended and restated in Amendment No. 2. The balance of the remaining Unilateral Option Sum for Bounded Area Coverage Additive Alternate is reflected in Exhibit C.7 (Bounded Area Coverage Additive Alternate).

**Note 5:** Pursuant to Amendment No. Three, effective as of December 19, 2013, (a) Contractor's provision and implementation of certain equipment reflected in Exhibit C.2 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Three, was moved from Phases 3 and 4 to Phase 1; and (b) Contractor was engaged to provide and implement under Phase 1, certain additional equipment reflected in Exhibit C.2 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Three, (the equipment described in clauses (a) and (b) is collectively referred to as the "Specified Equipment").

In connection therewith, (i) a Unilateral Option Sum in the amount of \$4,362,681 was moved from Schedules C.4 (Schedule of Payments Phase 3 – Supply LMR System Components) and C.5 (Schedule of Payments Phase 4 – System Implementation) to Exhibit C (Schedule of Payments) to Schedule C.2 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Three, and thereafter such Unilateral Option Sum was converted to a Contract Sum; and (ii) a Unilateral Option Sum in the amount of \$1,285,230 was added to Schedule C.2 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Three, and thereafter such Unilateral Option Sum was converted to a Contract Sum.

**Note 6:** Pursuant to Amendment No. Four, effective as of December 19, 2013, Contractor was engaged to provide and implement under Phase 1, certain additional equipment and related services reflected in Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Four. In connection therewith, a Unilateral Option Sum in the amount of \$1,169,047 was added to Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Four, and thereafter such Unilateral Option Sum was converted to a Contract Sum.

**Note 7:** Pursuant to Amendment No. Five, effective as of March 27, 2014, license coordination fees for the Repeater Sites were reflected in Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Five. In connection therewith, a Unilateral Option Sum in the amount of \$20,240 was added to Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Five, and thereafter such Unilateral Option Sum was converted to a Contract Sum.

**Note 8:** Pursuant to Amendment No. Six, effective as of April 17, 2014, the enhancement of LAPDVDC's UPS to accommodate the installation and deployment of Core 2 was reflected in Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Six. In connection therewith, a Unilateral Option Sum in the amount of \$68,146 was added to Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Six, and thereafter such Unilateral Option Sum was converted to a Contract Sum.

**Note 9:** Pursuant to Amendment No. Seven, effective as of May 8, 2014, Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments) was revised to reflect the costs for the purchase of portable radios, radio accessories, consolettes, and consoles. In connection therewith, a Unilateral Option Sum in the amount of \$5,177,051 was added to Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Seven, and thereafter such Unilateral Option Sum was converted to a Contract Sum.

**Note 10:** Pursuant to Amendment No. Eight, effective as of August \_\_\_\_, 2014, Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments) was revised to reflect the costs for the purchase of portable radios and radio accessories. In connection therewith, a Unilateral Option Sum in the amount of \$3,671,006 was added to Exhibit C.1 (Schedule of Payments Phase 1 – System Design) to Exhibit C (Schedule of Payments), as amended by Amendment No. Eight, and thereafter such Unilateral Option Sum was converted to a Contract Sum.