

December 3, 2021

SB 343

Senate Bill 343 mandates supplemental materials that have been received by the East Bay Regional Communications Authority (EBRCSA) that relate to an agenda item after the agenda packets have been distributed to the Board of Directors be available to the public.

The attached documents were received at EBRCSA after distribution of the December 3, 2021, Regular Board meeting agenda packet.

Item 9.5

**RESOLUTION NO. 21-\_\_**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY (“EBRCSA”)**

\*\*\*\*\*

**AUTHORIZING THE CHAIR TO EXECUTE AND THE EXECUTIVE DIRECTOR TO  
IMPLEMENT CHANGE ORDER 34 WITH MOTOROLA SOLUTIONS, INC. TO ADD  
ADDITIONAL EQUIPMENT AND COST OF INSTALLATION TO CHANGE ORDER  
#33 AND PAY THE ASSOCIATED INCREASED COST ASSOCIATED WITH CHANGE  
ORDER NUMBER 34**

**WHEREAS**, pursuant to Government Code Section 6500 *et seq.* and the Joint Exercise of Powers Agreement executed by its members, the East Bay Regional Communications System Authority (the “EBRCSA”) is authorized to acquire, plan, design, finance, construct, operate and maintain a P-25 compliant communications system serving Alameda and Contra Costa Counties and individual political jurisdictions therein (the “System”); and

**WHEREAS**, the EBRCSA has contracted with Motorola Solutions, Inc. (“Motorola”) for the purchase of communications equipment, maintenance, and related services in connection with a P-25 compliant communications system serving Alameda and Contra Costa Counties and individual political jurisdictions therein (the “System”) through approval of the Communications System Agreement (“CSA”); and

**WHEREAS**, Public Safety Networks are transitioning the Land Mobile Radio (“LMR”) from TDM/T-1 circuit-based networking to Internet Protocol or “IP”- based Ethernet/MPLS networks; and

**WHEREAS**, EBRCSA’s Motorola ASTRO25 Radio network currently transports or “backhauls” its radio traffic over T-1 Circuits and was built utilizing existing T-1 circuit switched microwave communications provided by Member Agencies and a microwave purchase in 2004 via the Super Urban Area Security Initiative Grant (“Microwave System”); and, although the Microwave System has operated well, the age and the remaining life expectancy of some of its equipment is approximately 5 years; and

**WHEREAS**, EBRCSA’s LMR system is currently supported by a Motorola ten (10) year System Update Agreement II (“SUA II”) with a term ending in July 2023; and, the SUA II provides for substantial system updates and upgrades once every two years, resulting in EBRCSA’s radio system being up-to-date and optimized with current software, hardware and security; and

**WHEREAS**, no further system security or optimization upgrades can be implemented until the Ethernet/MPLS migration is complete. The most recent LMR system upgrade took place in February 2020 and the next upgrade is scheduled to take place by the first quarter of 2022; and

**WHEREAS**, the Board approved Motorola’s proposal for the Ethernet/MPLS migration, with a project total cost of \$8,575,759 via Change Order 33 (“Ethernet/MPLS Transition”) on December 4, 2020 ; and

**WHEREAS**, the Ethernet/MPLS Transition is expected to be completed in 24 to 27 months; and

**WHEREAS**, pursuant to the work authorized via Change Order Number 33, Motorola and its subcontractor Aviat Microwave have completed a detailed design review with physical inspections of all sites and determined additional paths and equipment is necessary to complete the project and has provided EBRCSA a proposal to integrate the additional sites and equipment in the amount of \$961,877.35 via Change Order 34; and

**WHEREAS**, funds are available for to cover such cost, and good cause appears therefor.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Board of Directors of the East Bay Regional Communications System Authority does hereby approve Change Order Number 34 to the System Update Agreement II with Motorola, Solutions, Inc., to integrate the additional sites and equipment into the Ethernet/MPLS Transition and authorize its Chair to execute such change order; and authorize its Executive Director to take such further action as may be necessary and appropriate to implement such change order.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 3<sup>rd</sup> day of December 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:** \_\_\_\_\_  
Caroline Soto, Secretary

December 3, 2021

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The attached documents were received at EBRCSA after distribution of the December 3, 2021, Regular Board meeting agenda packet.

Item 9.6



## ***East Bay Regional Communications System Authority***



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

### **2022 EBRCSA Board and Committee Meeting Schedule**

#### **REGULAR MEETINGS**

##### **Board of Directors**

March 4	10:00-12:00	Assembly Room, Alameda County OES
May 6	10:00-12:00	Assembly Room, Alameda County OES
September 23	10:00-12:00	Assembly Room, Alameda County OES
December 2	10:00-12:00	Assembly Room, Alameda County OES

#### **SPECIAL MEETINGS TO CONSIDER AB 361 FINDINGS:**

December 31, 2021	10:00-10:30	Assembly Room Alameda County OES
January 28	10:00-10:30	Assembly Room Alameda County OES
February 25	10:00-10:30	Assembly Room Alameda County OES
April 22	10:00-10:30	Assembly Room Alameda County OES
June 17	10:00-10:30	Assembly Room Alameda County OES
July 15	10:00-10:30	Assembly Room Alameda County OES
August 12	10:00-10:30	Assembly Room Alameda County OES
September 9	10:00-10:30	Assembly Room Alameda County OES
October 23	10:00-10:30	Assembly Room Alameda County OES
November 4	10:00-10:30	Assembly Room Alameda County OES

**Committees:**

February 18

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

April 1

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

September 2

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

November 11

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

TAC Meetings: First Thursday of the Month 09:30-11:00 in Room 1013 (if available) or 40% side

January 6

February 3

March 3

April 7

May 5

June 2

July 7

August 4

September 1

October 6

November 3

December 1

Revised: 11/30/2021

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## **East Bay Regional Communications System Authority**



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### **BOARD OF DIRECTORS MEETING**

#### **NOTICE OF REGULAR MEETING**

**DATE: December 3, 2021**

**TIME:** 10:00 a.m.

**PLACE:** Alameda County Office of Homeland Security and Emergency Services,  
Room 1013  
4985 Broder Blvd., Dublin, CA 94568

#### **Meeting Procedure During Coronavirus (COVID-19) Outbreak:**

Pursuant to the provisions of California Governor's March 4, 2020 State of Emergency Declaration and enactment of Assembly Bill 361 on September 16, 2021 which adopted exemptions to the Ralph Brown M. Act and the proposed findings to be adopted by the Board at this meeting, this meeting will be conducted by teleconference only in accordance with Government Code section 54953(e). No physical location will be available for this meeting. Members of the public may participate in this meeting, on Zoom at Meeting ID 847 9387 9502 and using passcode 239883 or by calling 16699009128. This meeting agenda is available online at <http://www.ebrcsa.org/meetings/board-of-directors.page>

- The Public will be asked if there is any comment or question concerning the meeting during the Public Comment Period and as each item is discussed.
- The Speaker may provide their name for the record, if they so choose

### **AGENDA**

- 
1. **Closed Session:** None. **Time:** N/A
  2. **Call to Order/Roll Call:** (Regular Session) **Time:** 10:00 a.m.
  3. **Report on Closed Session:** None.
  4. **Public Comments** (Meeting Open to the Public):

At this time, the public is permitted to address the Board on items within the Board's subject matter jurisdiction that do not appear on the agenda. Please clearly state your name for the record. In accordance with the Ralph Brown M. Act, no action or discussion may take place on any item not appearing on the posted agenda. If the matter requires action, it will be referred to staff and/or placed on the next Board agenda. In order that all interested parties have an opportunity to speak, please limit comments to a maximum of three (3) minutes. If you wish to comment on an item that is on the agenda, please wait until the item is read for consideration, and then make your comments. Please limit comments to a maximum of three (3) minutes.

5. **Presentations:** None.

6. **Approval of Minutes**

6.1 Approval of Minutes from the Board Meeting of May 7, 2021

7. **Written Communications:** None.

8. **Public Hearings:** None.

9. **Action Items:**

9.1 Implementation of AB 361 to Allow Teleconferenced Meetings

9.2 Adoption of Budget Adjustment for FY 20/21

9.3 Adopt a Resolution Authorizing an Agreement with Aviat Networks for Microwave Service and Support and an Adjustment to the FY 2021/2022 Budget to Allocate the Cost for the Same.

9.4 Adopt a Resolution Approving Change Order to the Communications System Agreement with Motorola Solutions, Inc. for Purchase of AES 256 Encryption for MCC 7500 Consoles and an Adjustment to the FY 2021/2022 Budget to Allocate the Cost for the Same.

9.5 Adopt a Resolution Approving Change Order Number [34] to the System Update Agreement II with Motorola Solutions, Inc. Authorizing Increase in Scope of Work and Cost for the Upgrade of the Microwave Network, Multi-Protocol Label Switching, and Network Transition from T1 Circuits to Ethernet and an Adjustment to the FY 2021/2022 Budget to Allocate the Cost for the Same.

9.6 Adopt 2022 Committee and Board Meeting Calendar

9.7 Annual Election of Board Chair and Vice Chair as required by the JPA Agreement and Bylaws

10. **Committee Updates:**

- 10.1 Receive Informational Report on Recent Finance Committee Activities
- 10.2 Receive Informational Report on Recent Operations Committee Activities

11. **Reports:**

- 11.1 Receive an Update on the City of Vallejo transition to EBRCSA
- 11.2 Receive an Update on the City of Benicia and Vallejo to a JPA with Solano County
- 11.3 Receive an Update on the City of Antioch adding site at Walton Lane
- 11.4 Receive an Update on TDMA – Time Division Multiple Access
- 11.5 Receive an Update on 10 Year Plan for Capital Replacement Project
- 11.6 Receive an Update on the San Ramon Site at Weideman Ranch and revised response date to letter from Member and Non-Member Agencies
- 11.7 Receive an Update on the Carquinez Site replacing 651 Pine St., Martinez

12. **Board Comments**

13. **Next Action Steps**

14. **Adjournment**

*This AGENDA is posted in accordance with Government Code Section 54954.2(a) If requested, pursuant to Government Code Section 54953.2, this agenda shall be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Section 12132), and the federal rules and regulations adopted in implementation thereof. To make a request for disability-related modification or accommodation, please contact the EBRCSA at (925) 803-7802 at least 72 hours in advance of the meeting.*

*I hereby certify that the attached agenda was posted 72 hours before the noted meeting.*



Tom McCarthy  
Executive Director  
Dated: November 29, 2021

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**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakland, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**AGENDA ITEM NO. 6.1.**

**AGENDA STATEMENT  
BOARD OF DIRECTORS MEETING  
MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Sheriff G. Ahern, Board Chair  
East Bay Regional Communications System Authority

**SUBJECT:** Approval of Minutes of the May 7, 2021 Board of Directors Meeting

**RECOMMENDATIONS:**

Approve the minutes of the May 7, 2021 Board of Directors meeting.

**SUMMARY/DISCUSSION:**

The Board of Directors will consider approval of the minutes of the May 7, 2021 Board of Directors meeting.

**RECOMMENDED ACTION:**

It is recommended that the Board of Directors approve the minutes of the May 7, 2021 Board of Directors meeting.

Attachments:

Exhibit "A" – Minutes May 7, 2021



## **East Bay Regional Communications System Authority**



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### **BOARD OF DIRECTORS MEETING**

#### **REGULAR MEETING**

**DATE: May 7, 2021**

**TIME:** 10:00 a.m.

**PLACE:** Alameda County Office of Homeland Security and Emergency Services,  
Room 1013  
4985 Broder Blvd., Dublin, CA 94568

### **MINUTES**

A Regular meeting of the East Bay Regional Communications System Authority was held on May 7, 2021, remotely via Zoom Video Communications.

1. **Closed Session:** None.
2. **Call to Order/Roll Call:** 10:01 a.m.

Boardmembers Present: G. Ahern, C. Andersen, J. Calabrigo, M. Casten, J. Catalano, A. Ciaburro, J. Diaz\*, T. DuPuis\*, N. Luby, P. Meyer, P. Mulligan, S. Muranishi, C. Nice\*, M. Nino, S. Perkins, E. Reiskin, M. Rodriguez, M. Salinas, M. Shorr\*, C. Silva, K. Stepper, L. Torres, B. Woerner (Note: \*Alternates)

Staff Present: T. McCarthy, L. McKinney, C. Boyer, C. Soto

Public: G. Poole, Motorola

3. **Report on Closed Session:** None.
4. **Public Comments:** None.
5. **Presentations:** None.
6. **Approval of Minutes**

#### **6.1 Approval of Minutes from the Board Meeting of March 5, 2021**

On motion of Bm. Stepper, seconded by Bm. Muranishi and by unanimous vote, the Board of Directors approved the minutes of the March 5, 2021 Board of Directors meeting.

7. **Written Communications:** None.

8. **Public Hearings:** None.

9. **Action Items:**

**9.1 Adopt a Resolution Adopting the FY 2021/2022 Administrative Budget**

Craig Boyer, Auditor, stated in terms of the FY2021/22 budget, the first page, was a high-level summary of the revenues and expenses. The budget was consistent with the prior year. There were some slight increases in revenues primarily in the operating payments based on high radio counts; on the expense side, again, fairly consistent with the prior year; there were increases on the administration line, and maintenance and utilities lines. Capital costs are also fairly consistent with last year. Debt service payment is the same from year-to-year, and it gets allocated between the principal and the interest depending on the debt service schedule payment. On the more detailed break out of the operating expenses include an increase in the Executive Director's compensation, contract costs, bolstered up budget for HVAC and generator maintenance where they saw increased costs and wanted to account for them. There is also a contingency line item this year to cover any unforeseen costs. Looking at capital expenditures, there are certain projects that have recurring costs e.g., TDMA upgrade and control stations. Finally, the 10-year cash flow projection is a fairly conservative approach on the revenue side as they assume that radio counts will stay stable throughout the 10 years. They built in cost of increases in work that is contracted, and generally apply a 3% increase from year to year for the operating expenses. The debt service eventually matures in FY 2028.

On motion of Bm. Perkins, seconded by Bm. Andersen and by unanimous vote, the Board of Directors adopted **Resolution No. 21-03 Adopting an Administrative Budget for Fiscal Year 2021/2022.**

**9.2 Adopt Revised 2021 EBRCSA Calendar Board Meetings**

On motion of Bm. Stepper, seconded by Bm. Woerner and by unanimous vote, the Board approved the revised Calendar of Board meetings to move the October meeting to October 22, 2021.

**9.3 Adopt a Resolution Urging Members and Non-Member Users to Impose a Standard Condition of Approval Regarding Land Mobile Radio Infrastructure to Meet Authority Standards**

Executive Director McCarthy stated there has been a lot of development since the System was first designed in 2006-2008. The Finance Committee asked the Authority to look at a policy similar to San Ramon Fire's policy that if a developer builds a new development, they are responsible for maintaining what the Authority has set as a standard of 95% radio reception on hip. It will cost \$2- to \$2.5 million to build a new site, not counting land acquisition. If the Authority is responsible for building the sites, the reserves would be quickly depleted. San Ramon is using this policy in a development off of Norris Canyon road that has no reception. This is a good recommendation to make to the cities that these costs need to be included to maintain

radio coverage. It is supported by the Finance Committee and would be sent out to all members and non-member agencies for adoption.

Attorney McKinney stated there was a legal analysis in the staff report as they were asked whether the Authority itself could impose such a condition. It was concluded it could not, but it could ask its members and non-members to include a condition of approval that would allow this kind of infrastructure to be included when necessary by developers.

Director McCarthy stated once a site was built, it would then be officially transferred over to the Authority which will then maintain the equipment. The user fees that are collected, will pay for the upkeep and maintenance.

The Board of Directors discussed the benefits of this recommended condition of approval, and would encourage cities and counties to adopt this condition of approval.

Director McCarthy stated if approved by the Board, he would be sending out the language to the members and non-members requesting they report back to the Authority by December 31, 2021, on progress.

On motion of Bm. Silva, seconded by Bm. Perkins and by unanimous vote, the Board of Directors adopted **Resolution No. 21-04 Urging Members and Non-Member Users to Impose a Standard Condition of Approval Requiring Applicants to Provide Necessary Infrastructure to Meet Authority Standards**, after legal consultation, and report back by December 31, 2021 on their progress.

#### **9.4 Adopt a Resolution Authorizing Purchase of Additional Control Stations Necessary for EBRCSA Interoperability with the BART Underground Network**

Director McCarthy stated when the City of Oakland came on the System, they moved from Harris to Motorola. The City of Oakland provides fire services for the Bay Area Rapid Transit (BART) District when underground. They had Harris radios at that time so they were able to communicate. They installed six control stations that connected to BART, so when Oakland was underground, they could automatically switch and continue the communication when they were in the tunnel or the Caldecott. The six stations served well, but now with the addition of the BART Warm Springs Tunnel in Fremont, the increased number of users, they needed to add two more control stations to alleviate crowding. This will become redundant when they complete the Inner Subsystem Interface (ISSI) installation. BART had written a grant for \$2 million so they could install Motorola equipment in the tunnel so that they could easily load all the radios. The ISSI will be installed and become primary, but the control station will be redundant. The cost is \$25K for the two stations to alleviate traffic. It is in the FY 21/22 budget as a capital expenditure. The work will be completed by Contra Costa County Dept of Information Technology radio shop.

On motion of Bm. Nice, seconded by Bm. Andersen and by unanimous vote, the Board of Directors adopted **Resolution No. 21-02, Authorizing the Chair to Execute and the Executive Director to Implement a Contract Change Order with Motorola Solutions, Inc. for Purchase of Control Stations.**

**9.5 Adopt a Resolution Authorizing A Two-Year Extension of the Contra Costa County Department of Information Technology Agreement**

Director McCarthy stated Alameda and Contra Costa Counties' radio shops and departments of information technology maintain the System, dispatch centers and external sites. The contract was bid a long time ago, and there might be a rebid of it, but for now, they would like to extend it for two-years. There would be an increase of \$470,000 over two years.

On motion of Bm. Nice, seconded by Bm. Torres and by majority vote (Bms. Andersen and Nino abstaining), the Board of Directors adopted **Resolution No. 21-05 Authorizing the Chair to Execute and the Executive Director to Implement an Amendment to the Interagency Agreement with the Contra Costa County Department of Information Technology, to Increase the Contract Amount By \$470,000.**

**10. Committee Updates:**

**10.1 Receive Informational Report on Recent Finance Committee Activities including Review of the FY 2019-2020 Audit**

Bm. Meyer stated they covered most items in this meeting and they received the audit report.

**10.2 Receive Informational Report on Recent Operations Committee Activities**

Chair Ahern stated they covered the San Ramon site at Wiedemann Ranch, encryption requirement, received an update on Antioch and Vallejo, and Solano County JPA, TDMA, 10-Year plan.

**11. Reports:**

**11.1 Receive an Informational Report on Annual Audit for FY 2020**

Executive Director McCarthy stated an audit had been conducted, and a presentation was given to the Finance Committee. The Board was also keeping everything in line.

Mr. Boyer stated they received an unmodified opinion.

**11.2 Receive an Update on the City of Vallejo transitioning to EBRCSA**

Executive Director McCarthy stated the City of Vallejo Police Department was fully transitioned to the System on April 21, 2021. The Authority has received thanks and kudos. The Contra Costa County radio shop did the work on a separate contract. The Fire Department was still installing equipment in their rigs. Vallejo will be with the Authority until the Solano County JPA is done.

**11.3 Receive an Update on the City of Benicia JPA with Solano County**

Executive Director McCarthy stated the City of Benicia has been spearheading a JPA for Solano County. Their Police Chief has now become their City Manager. They

have hired their own counsel to put together the JPA, and file with the State of California. They have a consultant working with them on this. They are now seeking buy-in from those in Solano County. It is going well and progressing. Benicia will then move off the System to the Solano County JPA.

#### **11.4 Receive an Update on the City of Antioch adding site at Walton Lane**

Executive Director McCarthy stated the site at Walton Lane in Antioch serves Contra Costa County Sheriff, Contra Costa County fire, the ambulance company there and EBRPD. When they go to James Donlon area, they do not have communication. The Board of Directors agreed to have Executive Director McCarthy work with the City on the site for coverage. Antioch was to be responsible for getting power to site, arrange the lease and put the antennas on the tower. The work for the electric will go out to bid now, and it is in Antioch's upcoming fiscal year's budget.

#### **11.5 Receive an Update on TDMA – Time Division Multiple Access**

Executive Director McCarthy stated they have been working on it. They were doing final engineering. They were hoping to do final testing next week. There were over 21,000 radios that needed to be touched to get it done, so it has taken some time.

#### **11.6 Receive an Update on 10 Year Plan for Capital Replacement Project**

Executive Director McCarthy stated they had done a site visit and created an ACCESS database to determine future cost increases, if any, planning maintenance and replacement of equipment. They will also create an up-to-date data base that is in the System.

### **12. Board Comments**

J. Diaz asked when they would be meeting in-person.

Chair Ahern stated, hopefully by October.

### **13. Next Action Steps**

None.

### **14. Adjournment: With no further business coming before the Board, the meeting was adjourned at 11:00 a.m.**



**East Bay Regional  
Communications  
System Authority**



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**AGENDA ITEM NO. 9.1.**

**STAFF REPORT  
BOARD OF DIRECTORS MEETING  
MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Thomas McCarthy, Executive Director

**SUBJECT:** Implementation of AB 361 to Allow Teleconferenced Meeting.

**RECOMMENDATIONS:**

Staff recommends that the Board of Directors of the East Bay Regional Communications System Authority (“**Authority**”) adopt the proposed Resolution to continue conducting Board of Director and all other Authority Committee meetings remotely due to health and safety concerns for the public and making related findings in compliance with Assembly Bill 361 (2021) (“**AB 361**”) effective December 3, 2021 through January 3, 2022.

**SUMMARY/DISCUSSION:**

On March 4, 2020, Governor Newsom declared a State of Emergency to make additional resources available, formalize emergency actions already underway across multiple state agencies and departments, and help the State address the broader spread of COVID-19.

On March 17, 2020, in response to the COVID-19 pandemic, Governor Newsom issued Executive Order N-29-20, which suspended certain provisions of the Ralph M. Brown Act (“**Brown Act**”) in order to allow local legislative bodies to conduct meetings telephonically or by other means. Additionally, the State implemented a shelter-in-place order, requiring all non-essential personnel to work from home.

The Board of Directors established virtual meetings. The virtual meetings have allowed the Board to continue to conduct its business from remote locations while ensuring the public’s continued access to government meetings in a safe manner.

On June 11, 2021, Governor Newsom issued Executive Order N-08-21, which among other things, rescinded certain clauses of Executive Order N-29-20 after September 30, 2021, including clauses that suspended certain provisions of the Brown Act. Thus, effective October 1, 2021, agencies would have had to transition back to in person public meetings. Since the Governor issued Executive Order N-08-21, the highly contagious Delta variant has emerged, causing a spike in cases throughout the state and within Alameda and Contra Costa Counties.

On August 2, 2021 the Alameda and Contra Costa County Health Officers issued Public Health Orders requiring all individuals in both Counties, regardless of vaccination status, to wear face coverings in all indoor public settings and businesses for the control of COVID-19. These August 2, 2021 Public Health Officer Orders will be in effect until rescinded, superseded or amended.

On September 16, 2021, Governor Newsom signed AB 361, which was an urgency measure that became effective on October 1, 2021, and it allows a local agency to use teleconferencing for public meetings during a Governor-proclaimed state of emergency as long as the legislative body adopts findings every 30 days that: 1) meeting in person would present imminent risks to the health or safety of attendees as a result of the emergency; or 2) state or local officials have imposed or recommended measures to promote social distancing.

In such circumstances, a legislative body is not required to make available a physical location from which members of the public may observe the meeting and offer public comment or required to have a quorum of the members of the legislative body participate from locations within the boundaries of the agency's jurisdiction in the following circumstances:

- The legislative body holds a meeting during a proclaimed state of emergency, and state or local officials have imposed or recommended measures to promote social distancing.
- The legislative body holds a meeting during a proclaimed state of emergency to determine, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees; or
- The legislative body holds a meeting during a proclaimed state of emergency and has determined, by majority vote, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

The legislative body must make certain findings by majority vote every 30 days to continue using AB 361's teleconferencing requirements.

An additional provision of AB 361 states that, in the event of a disruption within the local agency's control that prevents members of the public from offering public comments using the call-in option or internet-based service option, the legislative body is prohibited from taking any further action on items appearing on the meeting agenda until public access to the meeting via the call-in or internet-based options is restored.

These new provisions are only operative until January 1, 2024, at which point they are repealed, and the prior Brown Act teleconferencing requirements become effective again.

The California Department of Public Health (CDPH) and the Federal Centers for Disease Control and Prevention (CDC) caution that the Delta Variant of COVID-19, is more transmissible than prior variants of the virus, may cause more severe illness, and even fully

vaccinated individuals can spread the virus to others resulting in rapid and alarming rates of COVID-19 cases and hospitalizations.

The Authority meets the requirements to continue holding meetings remotely in order to ensure the health and safety of the public:

- The Governor has declared a State of Emergency related to the COVID-19 pandemic; and
- County Health Orders require that individuals in indoor public spaces wear masks and the CDC recommends social distancing of at least six feet due to COVID-19; and
- The Delta variant of COVID-19 has resulted in a significant increase of COVID-19 cases within the state and throughout Alameda and Contra Costa Counties.

Thus, meeting in person for Board and Authority Committee meetings would present imminent risks to the health and safety of attendees, the Board and staff. In the interest of public health and safety, as affected by the emergency caused by the spread of COVID-19, Authority staff recommends invoking the provisions of Assembly Bill 361 related to teleconferencing.

The Board must make its own determination and findings, no later than 30 days after the adoption of this initial Resolution, in order to continue holding teleconferenced meetings in accordance with AB 361. At this time, Staff intends to schedule special Board meetings every 30 days, if necessary, to consider adoption of similar findings in the future.

**FINANCIAL IMPACT:**

None.

**COMMITTEE ACTION:**

Because both the Finance and Operations Committees met prior to the Board's meeting this month, each Committee was required to adopt its own AB 361 findings in order to meet remotely and they have done so. However, the Board has the authority to adopt the proposed Resolution, and any future AB 361 findings, on behalf of itself and the other legislative bodies of the Authority.

**RECOMMENDED ACTION:**

It is recommended that the Board of Directors adopt the proposed Resolution to continue conducting Board of Director and all other Authority Committee meetings remotely due to health and safety concerns for the public and making related findings in compliance with AB 361 effective December 3, 2021 through January 3, 2022.

Attachments:

Exhibit "A" – Proposed Resolution

**RESOLUTION NO. 21-**  
**A RESOLUTION OF THE**  
**THE EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

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**RESOLUTION AUTHORIZING TELECONFERENCE MEETINGS PURSUANT TO  
ASSEMBLY BILL 361 EFFECTIVE DECEMBER 3, 2021 THROUGH JANUARY 3, 2022**

WHEREAS, on March 4, 2020, Governor Gavin Newsom proclaimed the existence of a state of emergency in California under the California Emergency Services Act, Government Code section 8550 et seq. (Declaration); and

WHEREAS, on March 17, 2020, Governor Gavin Newsom issued Executive order N-29-20 (Executive Order), which suspended the teleconferencing rules set forth in California Open Meeting law, the Ralph M. Brown Act (California Government Code §§ 54950 – 54963), provided certain requirements were met and followed; and

WHEREAS, on June 11, 2021, Governor Gavin Newsom issued Executive Order N-08-21, which clarified the suspension of the teleconferencing rules set forth in the Ralph M. Brown Act and further provided that those provisions would remain suspended through September 30, 2021; and

WHEREAS, on September 16, 2021, Governor Gavin Newsom signed Assembly Bill 361, which provides that under Government Code section 54953(e), a legislation body subject to the Ralph M. Brown Act may continue to meet using teleconferencing without complying with the non-emergency teleconferencing rules in Government Code section 54953(b)(3) if a proclaimed state of emergency exists and state or local officials have imposed or recommended measures to promote social distancing; and

WHEREAS, such conditions exist in the East Bay Regional Communications System Authority (EBRCSA) jurisdiction. In addition to the Governor’s Declaration, both the Alameda and Contra Costa County Health Officers have issued numerous Health Orders regarding safety protocols during the COVID-19 pandemic. In particular, on August 2, 2021, both the Contra Costa County and Alameda County Health Officers issued an Order requiring all individuals in the County, regardless of vaccination status, to wear face coverings in all indoor public settings and businesses for the control of COVID-19. These Public Health Officer Orders will be in effect until rescinded, superseded or amended; and

WHEREAS, The California Department of Public Health (CDPH) and the Federal Centers for Disease Control and Prevention (CDC) caution that the Delta Variant of COVID-19, is more transmissible than prior variants of the virus, may cause more severe illness, and even fully vaccinated individuals can spread the virus to others resulting in rapid and alarming rates of COVID-19 cases and hospitalizations; and

WHEREAS, in the interest of public health and safety, as affected by the emergency caused by the spread of COVID-19, EBRCSA intends to invoke the provisions of Assembly Bill 361 related to teleconferencing in the manner authorized by Government Code § 54953(e), and such

legislative body shall comply with the requirements to provide the public with access to the meetings as prescribed in Government Code § 54953(e)(2); and

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of East Bay Regional Communications System Authority as follows:

1. The Recitals set forth above are true and correct and are incorporated herein by reference.
2. In compliance with AB 361 (2021), and in order to continue to conduct teleconference meetings without complying with the usual teleconference meeting requirements of the Ralph M. Brown Act, the Board of Directors makes the following findings:
  - a. The Board of Directors has considered the circumstances of the state of emergency; and
  - b. The state of emergency, as declared by the Governor, continues to directly impact the ability of the Board of Directors, including EBRCSA's legislative bodies and staff, as well as staff and members of the public, from meeting safely in person; and
  - c. The CDC, Alameda and Contra Costa Counties Departments of Public Health continue to recommend physical distancing of at least six feet due to COVID-19 and as a result of the presence of COVID-19 and the Delta variant, meeting in person would present imminent risks to the health or safety of attendees, the legislative bodies and staff.
3. The Board of Directors and EBRCSA's legislative bodies may continue to meet remotely in compliance with AB 361, in order to better ensure the health and safety of the public and staff in accordance with the provisions of Government Code section 54953(e).
4. The Board of Directors will revisit the need to conduct meetings remotely within 30 days of the adoption of this resolution.
5. Staff is authorized and directed to take all actions necessary to implement the intent and purpose of this resolution, including conducting open and public meetings in accordance with Government Code section 54953(e) and all other application provisions of the Ralph M. Brown Act; and
6. Staff is directed to return no later than 30 days after this resolution is adopted with an item for the Board of Directors of East Bay Regional Communications System Authority to consider whether to continue meeting under the provisions of Assembly Bill 361.

PASSED AND ADOPTED by the Board of Directors of East Bay Regional Communications System Authority at a regular meeting on the 3<sup>rd</sup> Day of December 2021, by the following vote:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:** \_\_\_\_\_  
Caroline Soto, Secretary



**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**AGENDA ITEM 9.2.**

**AGENDA STATEMENT  
BOARD OF DIRECTORS  
MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Sheriff G. Ahern, Board Chair  
East Bay Regional Communications System Authority

**SUBJECT:** Budget Adjustments Fiscal Year 2020/2021

**RECOMMENDATIONS:**

Adopt a Resolution adopting and implementing adjustment to the Fiscal Year 2020/2021 Administrative Budget for the East Bay Regional Communications System Authority.

**SUMMARY/DISCUSSION:**

Chris Boyer, Alameda County Auditor's Office, has prepared FY 20/21 Budget Adjustment which was presented to the Finance and Operations Committees. The Committees discussed the proposed Budget Adjustments and recommended that the Board of Directors adopt a Resolution approving the proposed adjustment to the FY 20/21 /21 Administrative Budget, as set forth in the Attachment A.

Adjust the FY 20/21 budget for the following:

1. Increase maintenance budget due to unplanned generator costs, miscellaneous maintenance costs, and higher than expected HVAC and microwave maintenance costs.

Below is a summary of the proposed budget adjustments for FY 20/21:

**REVENUES**

Operating Payments	<u>90,000</u>
Total	<u>\$90,000</u>

**EXPENSES**

Maintenance	<u>90,000</u>
Total	<u>\$90,000</u>

Operating payment revenues were budgeted in excess of appropriations for expenses for the fiscal year. After the current budget amendment, budgeted revenues in excess of budgeted expenses total \$610,000. Actual revenues in excess of expenditures will be applied to reserves in accordance with the Authority’s reserve policies.

**RECOMMENDED ACTION:**

It is recommended that the Board of Directors of the East Bay Regional Communications System Authority adopt a Resolution Adopting and Implementing Adjustment to the Fiscal Year 2020/2021 Administrative Budget for the EBRCSA, as outlined in the Attachment A.

Attachments:

Exhibit “A” – Proposed FY 20/21 Budget Adjustment

Exhibit “B” – Resolution FY 20/21 Adjustment



**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livemore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livemore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**BUDGET**  
**FISCAL YEAR 2020-21**

**Revenues**

Operating payments	\$ 6,450,000
Service payments	1,232,000
Interest	188,000
<b>Total revenues</b>	<b><u>7,870,000</u></b>

**Expenses**

Administration	433,000
Audit fees	20,000
Insurance	40,000
Lease	70,000
Legal	20,000
Licenses and permits	30,000
Membership fees	10,000
Maintenance	3,695,000
Security	12,000
Utilities	210,000
Website hosting	4,000
<b>Total operating expenses</b>	<b><u>4,544,000</u></b>
Capital	2,066,000
Debt Service	650,000
<b>Total expenses</b>	<b><u>7,260,000</u></b>
<b>Net Income</b>	<b><u>\$ 610,000</u></b>

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM  
EXPENDITURE DETAIL  
FISCAL YEAR 2020-2021**

<b>OPERATING EXPENSES</b>	<b>FY20-21 Approved</b>	<b>FY20-21 Amendment #2</b>	<b>FY20-21 Amended</b>
Administration			
Executive director	\$ 244,000	\$ -	\$ 244,000
Administrative assistant	40,000	-	40,000
Planning	134,000	-	134,000
Travel	5,000	-	5,000
Miscellaneous	10,000	-	10,000
Audit fees	20,000	-	20,000
Insurance	40,000	-	40,000
Lease	70,000	-	70,000
Legal	20,000	-	20,000
Licenses and permits	30,000	-	30,000
Membership fees	10,000	-	10,000
Maintenance		-	-
Service agreement	1,080,000	-	1,080,000
Software maintenance (SUA II)	974,000	-	974,000
Network administration	262,000	-	262,000
HVAC maintenance	21,000	7,000	28,000
Generator maintenance	42,000	11,000	53,000
ALCO general maintenance	600,000	-	600,000
COCO general maintenance	230,000	9,000	239,000
CSI telecommunications	200,000	-	200,000
Microwave maintenance	181,000	60,000	241,000
Miscellaneous	15,000	3,000	18,000
Security	12,000	-	12,000
Utilities	210,000	-	210,000
Website hosting	4,000	-	4,000
<b>Total expenses</b>	<b><u>4,454,000</u></b>	<b><u>90,000</u></b>	<b><u>4,544,000</u></b>
<b>CAPITAL EXPENDITURES</b>			
TDMA Upgrade	1,664,000	-	1,664,000
DC Power Upgrade	250,000	-	250,000
Dispatch Consoles	152,000	-	152,000
<b>Total expenditures</b>	<b><u>2,066,000</u></b>	<b><u>-</u></b>	<b><u>2,066,000</u></b>
<b>DEBT SERVICE</b>			
Principal	492,000	-	492,000
Interest	158,000	-	158,000
<b>Total expenses</b>	<b><u>\$ 650,000</u></b>	<b><u>\$ 90,000</u></b>	<b><u>\$ 650,000</u></b>

1. Motorola service agreement increased due to a new 4 year contract
2. Network administration contract increased
3. TDMA Upgrade Expense is the annual payment for the Change Order approved by the Board of Directors
4. DC Power Upgrade Expense is an annual amount to replace the batteries in various locations

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM  
PROJECTED CASH RESERVE BALANCES  
FISCAL YEAR 2020-2021**

	<b>FY19-20 Final Budget</b>	<b>FY19-20 Audited</b>	<b>FY20-21 Budget</b>
<b>Operating Reserve</b>			
Beginning Balance	\$ 1,733,162	\$ 1,733,162	\$ 2,012,311
Operating Payments	6,400,000	6,097,330	6,450,000
Initial Payments	-	4,400	-
Interest	80,000	191,428	188,000
Operating Expenses	(4,384,000)	(4,024,621)	(4,544,000)
Transfer to Capital Reserve	(1,637,162)	(1,989,389)	(1,834,311)
<b>Ending Balance</b>	<b>2,192,000</b>	<b>2,012,311</b>	<b>2,272,000</b>
<b>Debt Service Reserve</b>			
Beginning Balance	1,000,000	1,000,000	1,000,000
Service Payments	1,190,000	1,123,988	1,232,000
Debt Service	(650,000)	(648,024)	(650,000)
Transfer to Capital Reserve	(540,000)	(475,964)	(582,000)
<b>Ending Balance</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>
<b>Capital Reserve</b>			
Beginning Balance	7,943,576	7,943,576	8,588,225
Grants	167,000	142,778	-
Transfer In	2,177,162	2,465,353	2,416,311
Capital	(2,067,000)	(1,963,482)	(2,066,000)
<b>Ending Balance</b>	<b>8,220,738</b>	<b>8,588,225</b>	<b>8,938,535</b>
<b>Total Reserve Balance</b>	<b>\$ 11,412,738</b>	<b>\$ 11,600,535</b>	<b>\$ 12,210,535</b>

1. Operating Reserve Balance is equal to 50% of the next fiscal years Operating Budget
2. Debt Reserve Balance is set to equal \$1,000,000 every fiscal year
3. Capital Reserve Balance is the projected remaining cash after the Operating and Debt Reserve requirements have been met

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**  
**10 YEAR CASH FLOW PROJECTION**

	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30
<b>Operating Reserve</b>	<b>Audited</b>	<b>Budget</b>	<b>Forecast</b>								
Balance - beginning	\$ 1,733,162	\$ 2,012,311	\$ 2,272,000	\$ 2,244,410	\$ 2,306,963	\$ 2,367,417	\$ 2,438,438	\$ 2,520,092	\$ 2,586,940	\$ 2,664,549	\$ 2,752,986
Receipts from members	6,293,158	6,638,000	6,655,400	6,655,400	6,655,400	6,655,400	6,655,400	6,655,400	6,655,400	6,655,400	6,655,400
Payments to suppliers	(4,024,621)	(4,544,000)	(4,488,820)	(4,613,925)	(4,734,833)	(4,876,876)	(5,040,183)	(5,173,880)	(5,329,097)	(5,505,971)	(5,653,640)
Transfer to Capital Reserve		(1,834,311)	(2,194,170)	(1,978,923)	(1,860,113)	(1,707,503)	(1,533,564)	(1,414,672)	(1,248,695)	(1,060,992)	(927,926)
<b>Balance - ending</b>	<b>2,012,311</b>	<b>2,272,000</b>	<b>2,244,410</b>	<b>2,306,963</b>	<b>2,367,417</b>	<b>2,438,438</b>	<b>2,520,092</b>	<b>2,586,940</b>	<b>2,664,549</b>	<b>2,752,986</b>	<b>2,826,820</b>

<b>Debt Service Reserve</b>											
Balance - beginning	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Service payment	1,123,988	1,232,000	1,222,248	1,222,248	1,222,248	1,222,248	1,222,248	1,222,248	1,222,248	1,222,248	1,222,248
Principal	(473,000)	(492,000)	(512,000)	(532,000)	(553,000)	(576,000)	(600,000)	(623,000)	(646,000)	(669,000)	(692,000)
Bond interest	(175,024)	(158,000)	(138,000)	(118,000)	(97,000)	(74,000)	(50,000)	(27,000)	(14,000)	(7,000)	(3,000)
Transfer to Capital Reserve	(475,964)	(582,000)	(572,248)	(572,248)	(572,248)	(572,248)	(572,248)	(572,248)	(572,248)	(572,248)	(572,248)
<b>Balance - ending</b>	<b>1,000,000</b>										

<b>Capital Reserve</b>											
Balance - beginning	7,943,576	8,588,225	8,938,535	9,791,923	10,430,064	10,949,395	11,316,115	11,508,897	12,582,786	11,918,451	12,729,443
Grants	142,778	-	-	-	-	-	-	-	-	-	-
Transfer In	2,465,353	2,416,311	2,766,418	2,551,171	2,432,361	2,279,751	2,105,812	2,986,920	1,248,695	1,060,992	927,926
Capital	(1,963,482)	(2,066,000)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(250,000)	(250,000)
<b>Balance - ending</b>	<b>8,588,225</b>	<b>8,938,535</b>	<b>9,791,923</b>	<b>10,430,064</b>	<b>10,949,395</b>	<b>11,316,115</b>	<b>11,508,897</b>	<b>12,582,786</b>	<b>11,918,451</b>	<b>12,729,443</b>	<b>13,407,368</b>
<b>TOTAL RESERVE BALANCE</b>	<b>\$ 11,600,535</b>	<b>\$ 12,210,535</b>	<b>\$ 13,036,333</b>	<b>\$ 13,737,026</b>	<b>\$ 14,316,811</b>	<b>\$ 14,754,553</b>	<b>\$ 15,028,988</b>	<b>\$ 15,169,776</b>	<b>\$ 14,582,999</b>	<b>\$ 15,482,428</b>	<b>\$ 16,234,188</b>

**SUPPLEMENTARY SCHEDULE FOR PAYMENTS TO SUPPLIERS**

Audit fees	\$ (240,143)	\$ (433,000)	\$ (307,970)	\$ (317,209)	\$ (326,725)	\$ (336,527)	\$ (346,623)	\$ (357,022)	\$ (367,733)	\$ (378,765)	\$ (390,128)
Insurance	(10,657)	(20,000)	(20,600)	(21,218)	(21,855)	(22,511)	(23,186)	(23,882)	(24,598)	(25,336)	(26,096)
Lease	(25,902)	(40,000)	(41,200)	(42,436)	(43,709)	(45,020)	(46,371)	(47,762)	(49,195)	(50,671)	(52,191)
Legal	(68,364)	(70,000)	(72,100)	(74,263)	(76,491)	(78,786)	(81,150)	(83,585)	(86,093)	(88,676)	(91,336)
Licenses and permits	(9,661)	(20,000)	(20,600)	(21,218)	(21,855)	(22,511)	(23,186)	(23,882)	(24,598)	(25,336)	(26,096)
Membership fees	(3,264)	(30,000)	(30,900)	(31,827)	(32,782)	(33,765)	(34,778)	(35,821)	(36,896)	(38,003)	(39,143)
Maintenance	(8,446)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Customer svc. agmt.	(1,064,291)	(1,080,000)	(1,088,000)	(1,099,000)	(1,131,970)	(1,165,929)	(1,200,907)	(1,236,934)	(1,274,042)	(1,312,263)	(1,351,631)
SUA II	(957,763)	(974,000)	(980,000)	(1,009,400)	(1,039,682)	(1,070,872)	(1,102,998)	(1,136,088)	(1,170,171)	(1,205,276)	(1,241,434)
System management	(303,877)	(262,000)	(264,000)	(267,000)	(275,010)	(283,260)	(291,758)	(300,511)	(309,526)	(318,812)	(328,376)
HVAC	(22,914)	(28,000)	(28,840)	(29,705)	(30,596)	(31,514)	(32,459)	(33,433)	(34,436)	(35,469)	(36,533)
Generators	(46,338)	(53,000)	(54,590)	(57,228)	(59,915)	(62,652)	(65,442)	(68,285)	(71,184)	(74,140)	(77,154)
ALCO maintenance	(600,000)	(600,000)	(618,000)	(636,540)	(655,636)	(675,305)	(695,564)	(716,431)	(737,924)	(760,062)	(782,864)
COCO maintenance	(193,180)	(239,000)	(246,170)	(253,555)	(261,162)	(268,997)	(277,067)	(285,379)	(293,940)	(302,758)	(311,841)
CSI telecommunications	(79,174)	(200,000)	(206,000)	(212,180)	(218,545)	(225,101)	(231,854)	(238,810)	(245,974)	(253,353)	(260,954)
Microwave maintenance	(195,089)	(241,000)	(248,230)	(255,677)	(263,347)	(271,247)	(279,384)	(287,766)	(296,399)	(305,291)	(314,450)
Miscellaneous	(9,444)	(18,000)	(18,540)	(19,096)	(19,669)	(20,259)	(20,867)	(21,493)	(22,138)	(22,802)	(23,486)
Security	(10,697)	(12,000)	(12,360)	(12,731)	(13,113)	(13,506)	(13,911)	(14,328)	(14,758)	(15,201)	(15,657)
Utilities	(171,734)	(210,000)	(216,300)	(222,789)	(229,473)	(236,357)	(243,448)	(250,751)	(258,274)	(266,022)	(274,003)
Web site hosting	(3,683)	(4,000)	(4,120)	(4,244)	(4,371)	(4,502)	(4,637)	(4,776)	(4,919)	(5,067)	(5,219)
Payments to suppliers	<b>\$ (4,024,621)</b>	<b>\$ (4,544,000)</b>	<b>\$ (4,488,820)</b>	<b>\$ (4,613,925)</b>	<b>\$ (4,734,833)</b>	<b>\$ (4,876,876)</b>	<b>\$ (5,040,183)</b>	<b>\$ (5,173,880)</b>	<b>\$ (5,329,097)</b>	<b>\$ (5,505,971)</b>	<b>\$ (5,653,640)</b>

**RESOLUTION NO. 21 – XX**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

\*\*\*\*\*

**ADOPTING AND IMPLEMENTING AN ADJUSTMENT TO ADMINISTRATIVE BUDGET  
FOR FISCAL YEAR 2020/2021**

**WHEREAS**, on May 9, 2020, the East Bay Communications System Authority (“EBRCSA”) Board of Directors adopted the Fiscal Year 2020/2021 Administrative Budget for the EBRCSA; and

**WHEREAS**, the EBRCSA Finance Committee and Operations Committee have identified additional items requiring the establishment of a change in line items for the increase in cost for HVAC Maintenance, Microwave Maintenance and Utilities performed on the EBRCSA system in the accompanying Agenda Statement incorporated herein by reference, and have recommended that the EBRCSA Board of Directors so adjust the Fiscal Year 2020/2021 Administrative Budget; and

**WHEREAS**, the EBRCSA Board of Directors Finance Committee has identified an increase to the FY 2020/2021 budget; and

**WHEREAS**, the EBRCSA Board of Directors has reviewed and considered the proposed budget adjustment, has reviewed EBRCSA’s current revenues and expenses, has heard all comment thereon, and finds good cause therefor.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Board of Directors of the East Bay Regional Communications System Authority does hereby adopt a budget adjustment to the Fiscal Year 2020/2021 Administrative Budget for the EBRCSA by increasing the line items for HVAC Maintenance, Microwave Maintenance and Utilities regarding the EBRCSA system, and authorizes the Executive Director to implement such change to the Fiscal Year 2020/2021 Administrative Budget.

On motion of XX, seconded by XX, the foregoing Resolution was passed and adopted this 3rd day of December 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:**

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Caroline Soto, Secretary



**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**AGENDA ITEM NO. 9.3.**

**AGENDA STATEMENT  
BOARD OF DIRECTORS MEETING  
MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Sheriff G. Ahern, Board Chair  
East Bay Regional Communications System Authority

**SUBJECT:** Agreement with Aviat Networks for Microwave Service and Support

**RECOMMENDATIONS:**

1. Adopt a resolution authorizing an agreement between the East Bay Regional Communications System Authority (EBRCSA) and Aviat Networks.
2. Adopt a resolution adopting and implementing a budget adjustment to the EBRCSA FY21/22 budget to reflect the reduction in cost of this service.

**SUMMARY/DISCUSSION:**

The EBRCSA microwave network was built by Aviat Networks and EBRCSA has contracted with them for services and support of it since September 21, 2018. However, the contract expired on September 30, 2021.

The microwave system is currently monitored via a system known as "NetBoss" and this system is then monitored by the Alameda and Contra Costa County Radio Technicians. The prior Aviat support contract allowed an EBRCSA-authorized Radio Technician to call and provide a PIN number to request assistance from technicians with Aviat Care in order to resolve issues remotely. The prior contract also provided for repair services, corrective and preventative ground maintenance and remote monitoring by Aviat Networks. Aviat Networks has performed to the satisfaction of EBRCSA staff and technicians under the prior agreement.

Because EBRCSA is upgrading its microwave system to the an ethernet/MLPS (Multi Label Packet System), its support and service needs differ from past agreements. During the transition between systems, the services required are repair, replacement during repair and remote technical support. The proposed services will ensure that EBRCSA is able to maintain the system as the upgrade proceeds. The proposed term is from October 1, 2021 through September 30, 2022.

Prior to its expiration, staff will review the status of the upgrade and negotiate a revised agreement with Aviat based on the equipment installed at that point for review and approval by the Board.

**COMMITTEE RECOMMENDATION:**

The Operations and Finance Committees recommended that the proposed agreement be approved by the Board of Directors .

**FISCAL IMPACT:**

The prior cost for the Aviat services was \$263,883 per year. The proposed cost for Aviat services is \$95,851 per year. EBRCSA's Fiscal Year 2021/22 budget has sufficient funding to cover the cost of the proposed agreement with Aviat Networks, but a budget adjustment is recommended to reflect the change.

**RECOMMENDED ACTION:**

It is recommended that the Board of Directors adopt a resolution approving the Agreement with Aviat Networks for the East Bay Regional Communications System Authority. It is requested that the Board authorize the Chair to execute the Agreement and the Executive Director take such other and further action as necessary to implement the agreement.

It is further recommended that the Board of Directors adopt a resolution adopting and implementing a budget adjustment to the EBRCSA FY21/22 budget to reflect the reduction in cost of this service.

Attachments:

Exhibit "A" – Prior Aviat Care Agreement100985

Exhibit "B" – Proposed Aviat Care Maintenance and Managed Services Agreement

Exhibit "C" – Revised FY 2021/2022 EBRCSA Budget

Exhibit "D" – Resolution Authorizing Aviat Agreement

Exhibit "E" – Resolution Adopting and Implementing a Budget Adjustment to the FY21/22 Budget

October 7, 2021



# East Bay Regional Communications System Authority (EBRCSA)

## AviatCare Services Contract 100985

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## 1. EXECUTIVE SUMMARY

The included Aviat proposal specifies the services and responsibilities applicable to contract support of microwave and associated products from Aviat U.S., Inc. (“Aviat Networks” or “Aviat”) and its partners. The Services listed in this proposal shall be governed by the terms and conditions set forth in this Agreement and the Aviat Global Support Guidelines (“Agreement”). Neither party is obligated to provide Services until the Agreement is executed by both parties and a Purchase Order has been issued. Any capitalized terms not defined herein shall have the meaning ascribed to it in the Agreement. Should a conflict exist between any other agreement between the parties and this Agreement, this Agreement shall control.

Pricing quoted as part of this proposal is valid for 60 days. Services are quoted and payable in US dollars and reflect the scope of work as specified within this proposal. The services listed below shall only be eligible for support, which includes any customer spares purchased under the included Aviat Networks Sales Order Numbers. Consumable items such as cables or batteries are excluded. Unless otherwise specified and additionally included, facility maintenance including but not limited to towers, shelters, air conditioners, generators and fuel storage are also excluded.

## 2. AVIATCARE SERVICES: MAINTENANCE COVERAGE (“Services”)

Aviat Networks will provide the following services

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Repair Services                     | <input type="checkbox"/> Network Monitoring 24x7                |
| <input checked="" type="checkbox"/> Advance Replacement                 | <input type="checkbox"/> Network Monitoring Nights and Weekends |
| <input checked="" type="checkbox"/> Repair Logistics Program            | <input type="checkbox"/> Remote Software Upgrade                |
| <input checked="" type="checkbox"/> Remote Technical Support 24x7       | <input type="checkbox"/> Performance Management                 |
| <input type="checkbox"/> ProVision Support                              | <input type="checkbox"/> Performance Optimization               |
| <input type="checkbox"/> Onsite Ground Corrective Maintenance           | <input type="checkbox"/> Change Management                      |
| <input type="checkbox"/> Onsite Ground Preventive Maintenance           | <input type="checkbox"/> Spares Management                      |
| <input checked="" type="checkbox"/> Onsite Tower Corrective Maintenance | <input type="checkbox"/> Site Acceptance                        |
| <input type="checkbox"/> Onsite Tower Preventive Maintenance            | <input type="checkbox"/> Other                                  |
| <input type="checkbox"/> Hosted FAS                                     |   |

## 3 DURATION OF SUPPORT PERIOD

The support period of the Maintenance Level Agreement is provided in the table below:

	START	FINISH
REPAIR SERVICES	October 1, 2021	September 30, 2022
ADVANCE REPLACEMENT	October 1, 2021	September 30, 2022
REPAIR LOGISTICS PROGRAM	October 1, 2021	September 30, 2022
REMOTE TECHNICAL SUPPORT 24 X 7	October 1, 2021	September 30, 2022

**Full Network (Existing and New Equipment, All Sites)**

<b>EBRCS Microwave System</b>			
<b>SO: 2314941, 2315387, A71565, A81688</b>			
<b>Alameda County 34 Sites</b>		<b>Contra Costa County 26 Sites</b>	
<b>Qty</b>	<b>Equipment Description</b>	<b>Qty</b>	<b>Equipment Description</b>
102	Truepoint 5200	38	Truepoint 5200 <i>(14) Truepoints – Contract 101368 - Richmond Mini-Loop System (not included in pricing below)</i>
6	IRU600	18	IRU600
2	Eclipse ODU300	10	Eclipse ODU300
17	Asentria Remote Alarms	16	Asentria Remote Alarms
74	Commscope Antenna Systems	24	Commscope Antenna Systems
31	Commscope Dehydrators	13	Commscope Dehydrators
29	Emerson Chargers	10	Emerson Chargers
14	Fujitsu Mux	9	Fujitsu Mux
1	Larus Time Clock	1	Sageon Charger

<b>Alameda County</b>	<b>Alameda County</b>	<b>Alameda County</b>	<b>Alameda County</b>	<b>Contra Costa County</b>	<b>Contra Costa County</b>	<b>Contra Costa Count*</b>
Crane Ridge	East Dublin Bart	Hayward Annex	Oakland PD	<i>El Cerrito PD</i>	40 Glacier	Marsh Creek
Carol Drive – Not Included	WALPERT RIDGE	San Leandro Hills	Lakeside	<i>Knob Hill</i>	Kregor Peak	Highland Peak
Warm Springs	Newark PD	San Leandro Comm	Piedmont PD	<i>Richmond Comm Ctr</i>	Concord PD	Los Vaqueros
Livermore PD	Fremont PD	Seneca	Glen Dyer Jail	<i>Pearl Reservoir</i>	Walnut Creek Bart	San Ramon (Peters Ranch)
Pleasanton PD	Union City	San Leandro PD	Oakland APL	<i>Turquoise</i>	Walnut Creek PD	Santa Rita Jail Passive Repeater
Sunol Ridge – Not Included	Patterson Pass	MSC	Santa Rita Jail Passive Repeater*	Alta Mesa	FS85 Stoneman	<i>Bald Mtn</i>
Doolan WT	Coyote Hills	Emeryville FD	Bald Mtn*	Pine Street	Shadybrook	Rocky Ridge
Twin Peaks	Alameda PD	Albany PD	Rocky Ridge*	<i>Cummings Peak</i>	Marsh Creek Passive repeater	Alameda EOC
Berkeley PD	LALX UC Berkeley Labs	Skyline	Alameda EOC*	Pinole PD	Martinez	

#### 4. SUPPORT COSTS

Grand Totals for Alameda County and Contra Costa County	
Contra Costa County	\$35,027
Alameda County	\$60,824
<b>Total</b>	<b>\$95,851</b>
Pricing details below	

Warranty and Support (1-Year) Contra Costa County			
Services	Services Part Number	Product Qty	Price
<b>WarrantyPlus</b> ✓ Priority Technical Support: Available 24 X 7 (Unlimited)  ✓ AviatCloud Portal: Available 24 X 7 (Unlimited) Level 2  ✓ Repair Services: ➤ 20 Calendar Day turnaround time on Aviat Networks manufactured equipment ➤ Advance Replacement  ✓ Repair Logistics Program: Shipping covered by Aviat to and from  <b>OEM Extended Warranty</b>  ✓ OEM Repair Services: All OEM is an extension of Warranty offered by the Vendor (No advanced replacement); Targeted 30 Calendar Day turnaround time; Based on availability of vendor inventory	SNA-BNWX1001238	• (18) IRU600	\$6,084
	SNA-BNWX1001233	• (38) Truepoints	\$15,466
	SNA-BNWX1001230	• (10) ODU300	\$3,370
	SWW-OMEW000012MC	• (10) Emerson Charger	\$2,336
	SWW-OMEW000012MC	• (1) Sageon Charger	\$195
	SWW-OMEW000012AS	• (16) Asentria Remote Alarms	\$2,200
	SWW-OMEW000012AN	• (13) Commscope Dehydrators	\$1,587
	SWW-OMEW000012FJ	• (9) Fujitsu Sonet Mux	\$10,019
	<b>Sub-Total Aviat Warranty and Support</b>		
Management Discount (25%) *applies to Aviat radios			(\$6,230)
<b>Total Aviat Warranty and Support</b>			<b>\$35,027</b>

## Warranty and Support (1-Year)

### Alameda County

Services	Services Part Number	Product Qty	Price
<b>WarrantyPlus</b> ✓ Priority Technical Support: Available 24 X 7 (Unlimited)  ✓ AviatCloud Portal: Available 24 X 7 (Unlimited) Level 2  ✓ Repair Services: ➤ 20 Calendar Day turnaround time on Aviat Networks manufactured equipment ➤ Advance Replacement  ✓ Repair Logistics Program: Shipping covered by Aviat to and from  <b>OEM Extended Warranty</b>  ✓ OEM Repair Services: All OEM is an extension of Warranty offered by the Vendor (No advanced replacement); Targeted 30 Calendar Day turnaround time; Based on availability of vendor inventory	SNA-BNWX1001238	• (6) IRU600	\$2,028
	SNA-BNWX1001233	• (102) Truepoints	\$41,514
	SNA-BNWX1001230	• (2) ODU300	\$674
	SWW-OMEW000012AS	• (17) Asentria Remote Alarms	\$2,338
	SWW-OMEW000012AN	• (31) Commscope Dehydrators	\$3,785
	SWW-OMEW000012MC	• (29) Emerson chargers	\$5,646
	SWW-OMEW000012FJ	• (14) Fujitsu Sonet Mux	\$15,585
	SWW-OMEW000012LR	• (1) Larus Timing Clock	\$308
<b>Sub-Total Aviat Warranty and Support</b>			<b>\$71,878</b>
<b>Management Discount (25%) *applies to Aviat Radios</b>			<b>(\$11,054)</b>
<b>Total Aviat Warranty and Support</b>			<b>\$60,824</b>

### Optional Services – Corrective Maintenance

<b>Corrective Maintenance Ground</b> ✓ 4-hour SLA Emergency on-site service restoration and equipment fault correction and replacement ➤ (2) Callouts – to be used by 12/31/2021 ➤ Additional Callouts \$6,325	\$1,620
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#### 4.1 OPTIONAL AND TRUE-UP SUPPORT FEES:

Aviat Networks quotes onsite support services based on the following factors: network configuration, number of dispatches for the duration of a contract, number of hours onsite per dispatch, tower crew mobilization/demobilization, spares availability, and any specialized site access requirements.

Aviat Networks offers customers the option, where available, to purchase one-time support services which are invoiced at the time of service request. In addition, Aviat can supply onsite

support services in excess of negotiated contract terms where the number of dispatch requests exceed the number of quoted dispatches during a given contract period, Aviat Networks will invoice the customer for the additional services (True-up) at the time of dispatch request. Fees for one-time and True-up callouts are listed below.

<b>Optional, One-Time &amp; True-Up Managed Services Fees:</b>		
Managed Network Service: Miscellaneous, Additional Ground Dispatch (Onsite Corrective and Preventive Maintenance)	SWW- MSGENXX10199	Per Occurrence \$6,325
Managed Network Service: Miscellaneous, Additional Tower Dispatch (SLA restrictions apply) - Emergency - Non-Emergency	SWW- MSGENXX20199	Per Occurrence  \$11,000 \$ 8,333
Managed Network Service: Miscellaneous, Material	SWW- MSGENXX30199	Per Occurrence Time and Materials
Managed Network Service: Miscellaneous, Travel	SWW- MSGENXX40199	Per Occurrence Time and Materials
Managed Network Service: Miscellaneous, Special Site Access Equipment	SWW- MSGENXX50199	Per Occurrence Time and Materials
Managed Network Service: Miscellaneous, Site Power Support	SWW- MSGENXX60199	Per Occurrence Time and Materials
Miscellaneous, Misc Extra Onsite Work	SWW- MSGENXX70199	Per Occurrence Time and Materials

## 4.2 SERVICE LEVEL SUPPORT DESCRIPTION

### **Access to Aviat Networks Customer Online Technical Support Site**

The Customer will have access to the Aviat Networks Customer Online Technical Support web site 24/7 for a variety of tools and support services. Tools/support services include the following:

1. RMA Request & Status Updates.
2. RMA Reporting such as repair turnaround time performance.
3. Technical Support such as Service Request opening, reporting and status.
4. Information such as technical notes, frequently asked questions, solutions for commonly asked technical or operational issues.
5. Software Downloads.
6. Sales Order tracking and status (Eclipse Only).

URL: <http://www.aviatcloud.com/>

#### 4.2.1 REPAIR SERVICES

Repair services are available to the Customer during the standard manufacturing equipment warranty period which includes any repair or replacement of defective units during the stated warranty period. Additional charges may apply during the warranty period for customers returning a high volume of No Fault Found units, require advance replacements, or a non-repairable units. Prior to the warranty period expiring, customers may procure ongoing access to this support service through the purchase of an extended warranty program or through one of our AviatCare Maintenance support offerings. Otherwise the Repair service is made available for out of warranty products through a Per Incident billing process that can be enabled through our regional RMA Desk. See further details on how repair services are provided below.

All equipment under this specific Maintenance Level Agreement shall be covered with our standard Repair / Replace policy. There is no limit to the number of units returned for repair but customers are subject to the same limitations for No Fault Found (NFF), damaged beyond repair units, and non-returned Advance Replacement units where additional charges may apply:

- a) **Repair Center Support.** Customer shall place all RMA requests at the following link: [https://aviatcloud.com/rma\\_tracking.asp](https://aviatcloud.com/rma_tracking.asp). This link is available for use 24 hours a day, 7 days a week **except where routine maintenance is performed**. Customers can also email or fax RMA requests to the appropriate Aviat Networks Repair Center. Aviat Networks will typically fax or email a confirmation with an RMA reference number within one (1) business day. Requests can also be made via telephone during such Aviat Networks Repair Center's Business Hours.

In order for Aviat Networks to process an RMA request, the customer must provide the following information:

- Company name;
- Shipping and billing address;
- Part Number;
- Serial Number of the defective unit(s)
- Unit software load;
- Description of the suspected failure;
- Whether any special requirements exist;
- Maintenance Level Agreement contract number (if applicable); and
- Provide a purchase order at the applicable price for billable requests. Billable requests include any request for express service regardless of warranty status. Contact your local Aviat Networks Repair Center for price information.

- b) **Turnaround Time.** Aviat Networks will provide a Turnaround time on repair as per the following:

- 20 Calendar Day turnaround time on Aviat Networks manufactured equipment
- 45 Calendar Day turnaround on Aviat Networks Manufactured Discontinued equipment

- c) **Turnaround Time Calculation.** Turnaround time is measured from the time that a returned unit is received at the Aviat Networks Repair Center, which will be advised at time of issuing a RMA, until the time the unit is shipped from the Aviat Networks Repair Center. Thus, the measurement of turnaround time does NOT begin when a returned unit is shipped from the customer's premises and does NOT include the shipping time accrued after the returned unit is shipped from the Aviat Networks Repair Center to the Customer's premises. Additionally, turnaround time will not be guaranteed in the following situations:

- If more than five (5) Units of the same type or more than ten (10) Units of any type are received at the same time.
- Missing information such as failure details, return shipping address, shipping instructions and/or any other information that may affect the start of the repair process of the shipment of the Returned Unit as the repair completed.

- Any returned unit is deemed No Fault Found.
  - Any returned unit received due to any of the reasons listed in the [Exclusions from Repair & Return](#) Clause of this Section.
  - Any returned unit received improperly packaged and therefore sustained physical or electrostatic damage in shipping.
  - Returned units placed in Isolation.
  - Event of Excusable Delay as described under the [Excusable Delay](#) clause of the Additional Terms & Conditions section of this Agreement.
- d) **OEM.** For OEM, repair turnaround times are set by the OEM supplier. Aviat Networks close working relationship with OEM suppliers assures the best possible turnaround time. These times will be communicated to customer at time of RMA issuance. Excludes Tower repair.
- e) **Packaging and Shipping Procedures.** Both Aviat Networks and the Customer are obligated to ensure that all deliveries are packaged in such manner as to achieve suitable mechanical and environmental protection during storage, handling and transport to the delivery address. Electrostatic Discharge (ESD) precautions should be followed during handling and packaging of all Units delivered. For each consignment of units shipped to Aviat Networks, the Customer must provide a detailed packing list and commercial (Proforma) invoice to support the delivery. Each commercial invoice must clearly state the full description, the value of each unit and the RMA number. Once a unit has been repaired and shipped to the Customer at the address provided by the Customer upon RMA request, Aviat Networks will send a pre-alert notification to the Customer comprising a faxed copy of the commercial invoice and airway bill number pertaining to the shipment.
- f) **Exclusions from Repair & Return.** The services to be rendered by Aviat Networks under this Agreement shall not comprise any damage, defects, malfunctions or failures caused by one or more of the following:
- Damage caused by mishandling, customer or third-party negligence, abuse or operation outside the Aviat Networks environment specifications, or due to a cause not solely attributed to Aviat Networks.
  - Modifications, alterations, or repairs made other than by Aviat Networks.
  - Damages by persons other than Aviat Networks or its authorized service providers.
  - Any modification, removal or obliteration of a serial number or other identifying mark or any attempts thereof other than by Aviat Networks' authorized personnel.
  - Damage that occurs during shipment from the Customer premises to Aviat Networks' premises outside the RLP (if applicable).
  - Installed, stored, used, handled or maintained contrary to Aviat Networks' written instructions.
  - Used in conjunction or combination with third-party material or equipment without the consent of Aviat Networks.
  - Units returned for repair where there has been misuse, neglect, power failures, surges, accident or acts of nature such as fire, lightning strikes or flood.

Repairs necessitated during the Agreement period by any of the above causes may be made by Aviat Networks, and the Customer shall pay Aviat Networks' standard charges for time and materials, together with all shipping and handling charges arising from such repairs.

- g) **Stockpiling of Failed Units.** The Customer agrees to obtain an RMA Number for all failed units from an Aviat Networks Repair Center immediately following a failure and return the Units for repair immediately after receipt of the RMA Number from Aviat Networks. The customer agrees this Agreement will not apply retrospectively to cover any units failed and in the Customer's possession

prior to the execution date of this Agreement, and will not apply to any units for which RMA numbers had already been obtained from Aviat Networks prior to the date of execution of this Agreement. Following execution of this Agreement the Customer agrees not to stockpile failed units and accepts that Aviat Networks will not be required to meet the turnaround times outlined in this Agreement if the units are not returned to Aviat Networks on receipt of an RMA Number or if they are stockpiled.

- h) **No Fault Found Fee.** If in any given quarter during the Maintenance Level Agreement support period the number of returned units a Customer reports as defective exceeds 10% of the total number of returned units received by Aviat Networks during the same support quarter, but are thereafter found to meet Aviat Networks product test specifications resulting in a No Fault Found repair status, Aviat Networks will charge the Customer the then-current No Fault Found inspection fee for each non-defective returned unit in excess of such ten percent (10%) as a True-Up support fee at the conclusion of the maintenance support quarter.
- i) **Damaged Beyond Repair.** Returned Units that Aviat Networks (in its sole discretion) determined are damaged Beyond Repair or have been repaired (or otherwise modified) by a party other than Aviat Networks will be placed in Isolation. The Customer shall be advised by fax or e-mail, within ten (10) days working days, of the nature and extent of the damage. The Customer shall be responsible for informing Aviat Networks of the next course of action. If the Customer decides to replace the unit(s), they must follow the usual purchasing process. Note: If the returned unit is no longer in current manufacture and/or is OEM, Aviat Networks will not guarantee availability of a unit for sale.

#### 4.2.2 ADVANCE REPLACEMENT

Advance Replacement provides the Customer with shipments of a limited number of Units intended as an advanced replacement of Returned Units, upon the Customer's request. The service encompasses the following:

- a) **Repair Center Support.** Customer shall place Advance Replacement requests at the following link: [https://aviatcloud.com/rma\\_tracking.asp](https://aviatcloud.com/rma_tracking.asp). This link is available for use 24 hours a day, 7 days a week. Customers can also email or fax the RMA request to the Aviat Networks Repair Center. Aviat Networks will typically fax or email a confirmation with an RMA Number within one (1) business day. Requests can also be made via telephone during such Aviat Networks Repair Center's Business Hours.
- b) **Shipping Costs.** Customer is responsible for all charges associated with shipping the Returned Unit to the designated Aviat Networks Repair Center, which shall be made pursuant to the delivery term DDU (Delivered Duty Unpaid) Aviat Networks Repair Center (Incoterms:2000). Aviat Networks is responsible for the charges associated with shipping the Returned Unit back to the Customer, which shipment shall be made pursuant to the delivery term DDU (Delivered Duty Unpaid), Customer's premises (Incoterm:2000).
- c) **Packaging and Shipping Procedures.** Both Aviat Networks and the Customer are obligated to ensure that all deliveries are packaged in such manner as to achieve suitable mechanical and environmental protection during storage, handling and transport to the delivery address. Electrostatic Discharge (ESD) precautions should be followed during handling and packaging of all Units delivered. For each consignment of Units shipped to Aviat Networks, the Customer must provide a detailed packing list and commercial (Proforma) invoice to support the delivery. Each commercial invoice must clearly state the full description, the value of each unit and the RMA number. Once a unit has been repaired and shipped to the Customer at the address provided by the Customer upon RMA request, Aviat Networks will send a pre-alert notification to the Customer comprising a faxed copy of the commercial invoice and airway bill number pertaining to the shipment.

- d) **Returned Unit.** If this Agreement entitles the Customer to the RLP and the Customer elects to use it for the returned unit, the Customer will be invoiced for the list price of the Advance Replacement Unit(s) if Aviat Networks does not receive notification to pick-up the pertinent returned unit, at most, ten (10) days after Customer's receipt of the Advance Replacement Unit. In the event that the Customer is not entitled to the RLP or the Customer elects to return the returned unit to Aviat Networks via a freight forwarder outside of the RLP, the Customer will be invoiced for the list price of the Advance Replacement Unit if Aviat Networks does not receive the pertinent returned unit at the Aviat Networks Repair Center within, at most, thirty (30) days after receipt of the Advance Replacement Unit. The returned unit will become the property of Aviat Networks. The Customer agrees that the returned unit must be repairable and does not fall into any of the categories listed in the [Exclusion from Advance Replacement](#) clause.
- e) **Exclusion from Advance Replacement.** The services to be rendered by Aviat Networks under this Agreement shall not comprise any damage, defects, malfunctions or failures caused by one or more of the following:
- Damage caused by mishandling, customer or third-party negligence, abuse or operation outside the Aviat Networks environment specifications, or due to a cause not solely attributed to Aviat Networks.
  - Modifications, alterations, or repairs made other than by Aviat Networks.
  - Damages by persons other than Aviat Networks, or its authorized service providers.
  - Any modification, removal or obliteration of a serial number or other identifying mark or any attempts thereof other than by Aviat Networks' authorized personnel.
  - Damage that occurs during shipment from the Customer premises to Aviat Networks' premises outside the RLP (if applicable).
  - Installed, stored, used, handled or maintained contrary to Aviat Networks' written instructions.
  - Used in conjunction or combination with third-party material or equipment without the consent of Aviat Networks.
  - Units returned for repair where there has been misuse, neglect, power failures, surges, accident or acts of nature such as fire, lightning strikes or flood.
- f) **No Fault Found Fee.** If in any given quarter during the Maintenance Level Agreement support period the number of returned units a Customer reports as defective exceeds 10% of the total number of returned units received by Aviat Networks during the same support quarter, but are thereafter found to meet Aviat Networks product test specifications resulting in a No Fault Found repair status, Aviat Networks will charge the Customer the then-current [No Fault Found](#) inspection fee for each non-defective returned unit in excess of such ten percent (10%) as a True-Up support fee at the conclusion of the maintenance support quarter.
- g) **Limits.** Customer is entitled to receive a limited number of Advance Replacement Units per year. This number is not to exceed ten percent (10%) of the total Repair & Return requests during that year. Accrued Advance Replacement Units that have not been requested by the Customer may not be carried over to the next year. Additional Advance Replacement Units will be provided at Aviat Networks' then current prices, terms and conditions.
- h) **Unavailability.** If an Advance Replacement Unit is not available, then Aviat Networks will repair the Returned Unit within a mutually agreed Turnaround time. Customer agrees that repair of the Returned Unit shall be Aviat Networks' sole obligation, and the Customer's sole remedy, if an Advance Replacement Unit requested by the Customer is not available.
- i) **Turnaround Time Commitments.** Standard Advanced Replacement service ensures customer will receive a comparable unit to the one being returned within 3 to 5 business days from date of RMA. If customer requires a replacement unit in a shorter period of time there is an added charge for this and based on replacement unit availability will be delivered on a next business day basis.

Customer will be informed at time of RMA request whether this service can be provided or not depending on component availability.

#### 4.2.3 REPAIR LOGISTICS PROGRAM (RLP)

Aviat Networks shall provide free freight to the Customer for all Units returned via the Aviat Networks Repair Logistics Program (RLP). In the event that the Customer returns Units to Aviat Networks via a freight forwarder outside of this Program, all freight expenses and damage liability will be the responsibility of the Customer. Aviat Networks is responsible for all tariffs, duties, or taxes associated with importing Units for repair. After the repair, the Units shall be returned to the Customer DDU (Delivered Duty Unpaid) Customer's premises (Incoterms 2000). To implement the return of a Unit via this Program the Customer shall request an RMA for the Unit using the link in the [Repair Services](#) or [Advance Replacement](#) Sections or the contact information as listed in the [Aviat Networks Contacts](#) Section.

**Liability of Units Damaged During Shipping.** Aviat Networks will assume responsibility for insuring the Units against loss or damage that is moving via the RLP. The Customer shall examine the condition of all shipments returned from Aviat Networks via the RLP at the time of delivery. Visible signs of damage shall be brought to the attention of the carrier and the contents shall be examined for damage immediately. Aviat Networks will not be liable for any direct reports by the Customer for Units that are found to be damaged upon receipt by the Customer that are made over seven (7) days after the Units have been delivered. Units damaged through transit shall be returned for repair at Aviat Networks through the normal return process. Damage or loss incurred to Units shipped to Aviat Networks by the Customer outside the RLP shall be the responsibility of the Customer.

#### 4.2.4 REMOTE TECHNICAL SUPPORT 24 X 7

Customer 24 X 7 Remote Support

24 X 7 Remote Support provides around-the-clock (24 X7) telephone access to Aviat Networks' Technical Assurance Center in order to resolve Critical Service Requests, Major Service Requests, Minor Service Requests and Inquiry Service Requests.

- a) **Telephone Number.** Customer may contact Aviat Networks' Technical Assistance Center (TAC) regarding such Service Requests via telephone at any time during normal business hours. **OR** Customer may contact Aviat Networks' Technical Assistance Center (TAC) regarding such Service Requests via telephone at any time during the day or night. For night support services (after business hours in the local time zone), Aviat Networks will handle all such requests that are Critical or Major that the Customer reasonably categorizes as being High Priority. In addition with this service customer can pre-schedule after hours support when doing a new software installation or a network upgrade related to covered equipment.
- b) **Rapid Response Time.** Aviat Networks will route Critical Service Requests to the appropriate TAC subject matter expert within fifteen (15) minutes of call receipt.
- c) **Service Request Number.** Aviat Networks will assign, to each Service Request, a number that will be logged, tracked and stored in our Case Management database.
- d) **Service Request Management.** Aviat Networks will dedicate continuous attention to Critical and Major Service Requests until service is restored or request is closed. Aviat Networks will work to resolve the Service Request until Customer accepts the proposed solution, at which point the TAC will close the Service Request.
- e) **Documented Escalation Procedures.** Aviat Networks will implement internal escalation and notification procedures in order to facilitate the timely resolution of Service requests by a TAC Engineer with an adequate level of expertise. The technical support process includes rigid managerial escalations that are intended to facilitate the appropriate handling of recovery efforts

and Customers being regularly updated on the status of the Service Request. Additional information on this escalation process is available in our Global Network Service Customer Support guidelines document available on our website at [www.aviatnetworks.com](http://www.aviatnetworks.com).

- f) **Service Request Submission.** Under this Agreement, there is no limit to the number of Service Requests that Customer may submit for resolution. Customer may also define and authorize specific users within its organization to have access to this Service Request Submission Service. To ensure appropriate management of this support Aviat Networks has implemented a Support Assurance Program where an Express PIN will be assigned to each customer which clearly identifies the level of service a customer is entitled to receive. All Service Request Submissions will require Express PIN information prior to being submitted.

#### Service Request Severity Classifications

There are four (4) Service Request severity classifications: (a) Critical; (b) Major; (c) Minor; and (d) Inquiry. Critical, Major and Minor Service Requests pertain to problems in the Product. Inquiry Service Requests pertain to questions about the Product or Services. The four (4) Service Request severity classifications are defined as follows:

- a) **Critical Service Requests** are those that severely affect service, traffic, billing and/or maintenance capabilities, and require immediate corrective action (regardless of the time of day or day of the week).
- b) **Major Service Requests** are those that cause conditions that seriously affect Product operation, maintenance and/or administration, and require immediate attention. The urgency is less than in Critical Service Requests because of a lesser immediate or impending effect on Product performance, customer and/or network operation and revenue.
- c) **Minor Service Requests** are problems that are tolerable during Product use, do not significantly impair the functioning of the Product and do not significantly affect service to customers.
- d) **Inquiry Service Requests** are questions about technical details concerning the usage or behavior of the Product.

#### 4.2.5 PROVISION SUPPORT 24 X 7 OPTIONAL

Aviat Networks shall provide remote technical support to the Customer on ProVision. The remote technical support 24 X 7 shall be provided as per the terms outlined in the Remote Technical Support 24 X 7 section of this Agreement.

Aviat Networks shall provide support on the current and previous ProVision production release and will investigate all reproducible product anomalies for the supported version. Aviat Networks shall also provide general availability releases and product updates to the Customer free of charge during the coverage period.

##### Customer Responsibility

To enable the Aviat Networks TAC to fully investigate ProVision issues, the Customer shall provide the TAC the appropriated logs and remote access where possible. The Customer will provide the capability to allow Aviat Networks to remotely access the Customer's network by means of a secure internet connection to the Customer's site. This connection process will need to be defined at time of Agreement such that any issues arising after Agreement closure can be addressed expeditiously.

##### Exclusion from Provision Support 24 X 7

The services to be rendered on ProVision by Aviat Networks under this Agreement shall not comprise any services, which are required as a result of one or the more of the following:

- Customers using old versions of ProVision. The ProVision Agreement provides regular updates; customers are required to have the current GA release or the previous GA release installed and commissioned before they can obtain Aviat Networks technical support.
- Customer's lack of basic user training. It is expected that all users will have received basic user training when the ProVision system was installed.
- Network Planning; NMS Integration; Training courses; Installation and Commissioning; On Site Support. These are separate Aviat Networks service offerings, which are not delivered under this Agreement.
- Due to the complex nature of ProVision issues, which may be network related rather than ProVision related, not all Customer-defined level three product anomalies can be rectified within the commercial bounds in which Aviat Networks operates. Aviat Networks will require that all product anomalies are reproducible, prior to the commencement of any detailed fault analysis or potential product re-engineering. Aviat Networks undertakes to provide a response on all logged product issues and will provide work-around's where possible.

#### 4.2.6 CORRECTIVE MAINTENANCE - OPTIONAL

Corrective maintenance provides for the dispatch of the necessary support personnel and test equipment for the purposes of diagnosing a problem, restoring service or correcting a service request that Aviat Networks has unsuccessfully attempted to resolve remotely from one of our Technical Assistance Centers.

All sites under maintenance must have undergone full commissioning and proven to be in good working condition. The Customer shall make available site commissioning and acceptance data if requested by Aviat Networks. .

The service is provided according to the following Service Level Agreement (SLA):

CRITICAL FAULTS FOR RADIOS	4 Hours
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Aviat Networks shall use its best effort to be onsite within four (4) hours of the Aviat Networks first level support personnel receiving emergency onsite support requests. Notwithstanding anything contained herein to the contrary, all services provided may be performed by Aviat Networks directly or through one or more qualified Subcontractors. Aviat Networks shall coordinate, supervise, manage and be responsible for the services of all the Subcontractors.

**Limitations:** In order to meet the on-site SLA response requirements, the Customer is responsible for providing access to difficult to reach sites (i.e. site not accessible by public road using 2 wheel-drive vehicles or those requiring specialized transport vehicles) or to sites that require customer presence. The customer is responsible for provisioning and making available spare parts.

#### 4.2.7 Emergency onsite Tower Crew - OPTIONAL

Aviat Networks shall use its best effort to have a Tower Crew onsite with a mean time of 12 hours time, but not-to-exceed 24 hours, of the Aviat Networks NOC requesting an emergency onsite. Notwithstanding anything contained herein to the contrary, all services provided may be performed by Aviat Networks directly or through one or more qualified subcontractors. Aviat Networks shall coordinate, supervise, manage and be responsible for the services of all the subcontractors. Tower Crew pricing is based on a 2 person crew. If above 250 feet, 3 tower crew resources are required. If above 400 feet, then 4-5 resources are required.

Scope of work includes addressing the issue that is affecting system performance. The closest capable crew will be dispatched to assess the issue and develop a plan requesting materials that may be required. All responding members will be trained in the OSHA requirements for safe work.

**Note:** Issues or concerns that are not essential to the restoration of the network are to be addressed in a separate mobilization

**Limitations:**

- Onsite response time is based on weather permitting a tower climb. In order to meet the on-site SLA response requirements, the Customer is responsible for providing approval of additional expense for enabling access to difficult to reach sites (i.e. site not accessible by public road using 4 wheel-drive vehicles or those requiring specialized transport vehicles) or to sites that require Customer presence.
- Customer is responsible for ensuring availability of adequate Stock.

**Generators:** When there is an imminent threat of an approaching disaster (e.g. hurricane) Aviat Networks will work with Customer to plan in advance and stage generators that will be needed (after receipt of Customer acceptance to stage and rent generators).

**Notes:**

- Competency and readiness of Tower Crew and Ground Crew:
  - Tower Crew and Ground Crew are trained for the operation and troubleshooting of all Aviat Network provided equipment.
  - Upon arrival to sites, Tower Crew will be equipped with tools and materials (including but not limited to in-line connector, jumper cable, compression N-type connectors, 400-ft spare LMR400 cable, line sweeper, ground kits), to resolve the issues described by the dispatcher and to perform common tower/site corrective tasks including but not limited to:
    - Performing path alignment of dishes with size up to and including 10-ft
    - Performing structural restoration of the dishes
    - Performing loop-back tests on the Aviat equipment
    - Performing line sweeps and identifying cable faults
    - Performing cable/connector replacement
    - Performing equipment replacement/removal
    - Performing bypassing of surge arrestors with jumper cables and in-line connectors

#### 4.2.8 PREVENTIVE MAINTENANCE - OPTIONAL

Preventative Maintenance provides a resource to work with the customers in reviewing operational aspects related to the performance of Microwave equipment and associated software within the customer's network. A resource will come on-site to all customer locations covered under the associated agreement for this service. Once analysis is complete, Aviat Networks will provide a written summary of findings and recommendations related to the work that has taken place.

An engineer is deployed to site as per the customer and Aviat agreed upon schedule commitment for this service. A system health check on Aviat Networks' equipment will be completed which includes performance testing and an analysis of historical data. A visual site audit is included under this service offering, which includes the following: (Complete Checklist in Attachment 1: Preventive Maintenance Checklist)

##### 4.2.8.1 Ground PM - OPTIONAL

- Spot check Internal and external grounding
- Visual inspection of indoor and outdoor equipment
- Visual inspection of all cables, connectors, weather proofing
- Visual inspection of antenna installations
- Verify DC power levels

During the on-site time, the Aviat Networks' resource may recommend routine maintenance to the customer – which will be the responsibility of the customer to perform - and the Aviat Networks resource may, with the customer's agreement, perform routine upgrades to operating firmware or software that do not require network downtime. This preventative service work covers all Aviat Networks Microwave radio equipment, associated OEM equipment, DC systems and the Antenna Systems.

A final report will be presented to the customer stating findings, conclusions and any further recommendations. This preventative service work includes one day of time to visit with customer and review in detail the findings from preventative analysis effort.

#### 4.2.8.2 Tower PM - OPTIONAL

Provide inspection of Condition of Tower

- Provide inspection of Grounding
- Provide visual inspection of Safety Lighting Systems
- Provide inspection of all cables, connectors, weather proofing
- Provide inspection of Waveguide and Pressure Window assemblies if used
- Provide inspection of walkways, platforms, and sensors
- Provide inspection of antenna installation, condition, and alignment

During the on-site time, the Aviat Networks' resource may recommend routine maintenance to the customer – which will be the responsibility of the customer to either perform or provide authorization to Aviat to perform. This preventative service work covers only Antenna Systems under current Aviat support contract. A final report will be presented to the customer stating findings, conclusions and any further recommendations.

**Limitations:** In order to meet the on-site SLA response requirements, the Customer is responsible for providing access to difficult to reach sites (i.e. site not accessible by public road using 2 wheel-drive vehicles or those requiring specialized transport vehicles) or to sites that require customer presence. The customer is responsible for provisioning and making available spare parts.

**Exclusion:** Materials are excluded from scope of work and pricing. Materials or special transport equipment (snow cat, boom truck, etc) will be invoiced as time and materials.

**NOTES:** If additional hours are required to complete out of compliance repairs (above the 2 hours), Aviat will true-up with the client at completion of all sites. Assuming all fixes are during maintenance window, Hourly rate will be \$201 for a Lead Microwave Technician and \$302 per Tower Climber. Any materials will be invoiced at time and materials.

#### 4.2.9 REMOTE MONITORING SERVICES

Aviat Networks' Managed Network Services solution provides customer with a bundled offering that combines traditional network monitoring and event management services with fault resolution to offer end-to-end operations management solutions. When bundled together, services in this portfolio offer a broad, all-in-one-solution set managed through a single point of contact – the Aviat Network Management Center (NMC). Aviat Networks is providing customer with the following bundled services:

- Surveillance and Network Monitoring
  - Continuously monitor network elements.
  - Detect / Identify Faults and Alarms
- Event Management
  - Triage
    - Correlate Alarms where appropriate
    - Review Maintenance Schedules / Weather Patterns / Known Issues
    - Assess Severity and Service Impact
  - Troubleshooting
    - Diagnose and isolate the fault / alarm
    - Coordinate restoration and repair – remotely or onsite

- Actively manage the event from "cradle to grave."
- NOTE: Aviat Networks strives to troubleshoot and resolve issue remotely prior to or in place of dispatching field resources to site. This is facilitated through our close linkage between the NOC and our Technical Support staff who are co-located with our primary NOC facility. Allows us to bring 50+ years of Microwave and Wireless Networking experience to bear on an issue.
- Notification
  - Report events to customer in real-time via Phone / Email / Portal
- Trouble Ticketing
  - Document the fault
  - Manage ticket until fault is resolved
  - Generate trouble ticket reports
  - Capture lessons learned from each incident into our Knowledgebase for future reference
- Call out and Dispatch
  - Dispatch field operations and vendors for physical analysis and repair
  - Coordinate all aspects of the dispatch to ensure right resource is at the right location with the right tools / equipment to resolve the problem within the SLA commitment.
- Failure Analysis
  - Generate a post mortem report to document issue / lessons learned as appropriate
  - Drive continuous improvement of process and tools
- Reporting
  - Monthly reports – Performance to SLA / Network Performance

Aviat Networks strives to troubleshoot and resolve issues remotely prior to or in place of dispatching field resources to site. When an alarm is received in the Aviat NOC, the team will apply their years of microwave expertise in determining the root cause. We will review and correlate all alarms, look at weather, RSL's, SNR, etc. After troubleshooting and it is determined an emergency onsite dispatch is required, the following process will be followed.

- NOC generates Case to track all aspects of identified issue
- NOC reviews site issues to ensure there are no pre-required approvals needed
- NOC requests dispatch and identifies all pre-requisites including required hardware if hardware failure is identified as the root cause from remote troubleshooting
- NOC confirms dispatch in process to all parties with estimated ETA
- Once Tech onsite, SLA time is logged into case and Conference Bridge is initiated with NOC
- Issue is resolved / workaround completed and Ticket is closed by NOC
- Email notification is sent to all identified parties to alert them to closure
- Tech takes failed unit (assuming hardware failure) and processes through the Aviat RMA process
- Tech also updates Spares inventory identifying hardware removed and what hardware is being processed via the RMA process.

#### 4.2.9.1 Aviat Networks Support process – NOC & TAC

- Tier 1: NOC Personnel
  - NOC Engineer receives alarm notification from our monitoring tools, opens a Support Case and based on Customer and Product data, reviews potential impact. Looks at all aspects of the site impacted to understand potential impact from Scheduled Maintenance, Weather, and finally the equipment itself. If after initial review of all aspects that NOC can access, NOC will initiate a field dispatch. At the same time, if not successful in identifying the specific issue impacting performance of the network, will escalate to the next tier of support within Aviat (Tier 2). Within the TAC

team, NOC escalations take priority over all other customer issues – other than an outage that may be occurring in a customer’s network.

- The NOC Engineer will identify the severity (Critical, Major, Minor) at the time of escalation to the TAC team. This is driven based on parameters set in our agreed SLA with the customer and can also be overridden directly by customer requesting a higher level of severity.
- ~90%+ of trouble tickets are resolved within the NOC without any interaction with TAC
- Tier 2: TAC
  - If the problem is not resolved within the target resolution time – associated with each of the severity levels, then there is an automatic process by which the issue will escalate to the next level of support to pursue resolution, at this time notification also takes place to Management identifying fact issue has went beyond our accepted timeframe for resolution.
  - Tier 2 generally is required when the issue is beyond simple hardware failures. Usually involves some level of configuration, hardware not operating exactly as specified, or when problem is intermittent in nature.
  - ~8% of trouble tickets are resolved within Tier 2 after escalation from the NOC.
- Tier 3: TAC
  - If the problem is not resolved within the target resolution time, after Aviat Networks initiates the troubleshooting process, then Aviat Networks will escalate to management and next level of support to pursue resolution.
  - Tier 3 TSE typically gets involved when there are complex interoperability issues identified between the microwave and other components in the network, when problem appears to be software related (i.e., a bug), or when new products or software have been introduced into the network and cause issues not previously seen before.
  - ~2% of trouble tickets are resolved within Tier 3 after escalation from Tier 2.

#### 4.2.9.2 Service Level Agreement (SLA)

SR Priority Level	Alarm Severity	Event / Alarm Ack	Customer Event Alarm Notification	Aviat Reaction Time	Usage	Response
1	<u>CRITICAL</u> (Service Affecting)	< 5 min	< 10 min	< 15 min	Used for events that is currently impacting service or ability to view network elements (LOV).	Outages are referred to <u>Emergency Recovery</u> immediately. Immediate and continuous effort and escalation until resolved or restored to pre-incident condition or work around is implemented. Resolved or referred to Tier II/III support group.

2	<u>MAJOR (Non Service Affecting)</u>	<u>&lt; 30 min</u>	<u>&lt; 60 min</u>	<u>&lt; 75 min</u>	<u>Used for in-service trouble conditions that does not affect service nor qualify as a loss of redundancy. Typically these conditions if unresolved will not result in a Priority 1 event.</u>	<u>Resolved or referred to Tier II/III support group. Continuous effort until either a) service level is restored to pre-incident, b) acceptable workaround is implemented, or c) an action plan is instated that will meet MTTR requirements.</u>
3	<u>MINOR</u>	<u>&lt; 30 min</u>	<u>Monthly Summary</u>	<u>&lt; 12 hrs</u>	<u>Used for non-service affecting conditions that if not resolved will not result in a Priority 1 or 2 events or issue.</u>	<u>Resolved or referred to Tier II/III support group</u>

- Phone call wait time: Answer calls by live person within 30 seconds (average) with a maximum wait time of 5 minutes. A direct line will be provided.
- Email response time: Acknowledge email requests by live person within 15 minutes unless there is routine maintenance or down time.
- The maximum amount of time between the occurrence of condition that requires crew dispatch and the crew dispatch phone call is made: < 60 minutes

## 5. AVIAT NETWORKS CONTACTS

Outlined below is the process to contact Aviat Networks once the Agreement is effect.

<b>For Questions or concerns on the Agreement either before or after it is in effect, please contact:</b>	
<b>NORTH AMERICA</b> <b>Repairs, Returns &amp; Advance Replacements</b> Phone: 1--800-227-8332 (selecting Option 2, then 1)  Direct number: 1-210-526-6345  Fax: 1-210-526-6315  E-mail: <a href="mailto:CustomerCare.Americas@aviatnet.com">CustomerCare.Americas@aviatnet.com</a>  Online RMA Request: <a href="https://aviatcloud.com/rma_tracking.asp">https://aviatcloud.com/rma_tracking.asp</a>	<b>NORTH AMERICA</b> <b>Technical Assistance</b> Phone: 1-800-227-8332 (Option1, enter PIN, press 1 to confirm PIN, then Option 1 for TAC)  Direct number: 1-210-526-6345  Fax: 1-210-526-6315  E-mail: <a href="mailto:TAC.AM@aviatnet.com">TAC.AM@aviatnet.com</a>  Online Technical Assistance Request: <a href="http://www.aviatcloud.com">www.aviatcloud.com</a>
<b>NORTH AMERICA</b> <b>Network Operations Center (NOC)</b>	NOC Program Manager: Kevin Baxter Phone: 210-526-6352 Email: <a href="mailto:kevin.baxter@aviatnet.com">kevin.baxter@aviatnet.com</a>

Aviat NOC Contacts:  
Email: [noc.notifications@aviatnet.com](mailto:noc.notifications@aviatnet.com)  
Phone: 877-662-7871 opt 1, 24x7

NOC Escalation Contacts:  
Sr. Manager  
Stephen Berger  
Phone: 210-973-4218  
Email: [stephen.berger@aviatnet.com](mailto:stephen.berger@aviatnet.com)

## 6. ADDITIONAL TERMS AND CONDITIONS

This Agreement is between the party purchasing services described herein (the "Customer"), with Aviat U.S., Inc., a wholly owned subsidiary of Aviat Networks Inc. ("Aviat Networks"), with offices at 200 Parker Drive, Suite C100A, Austin, Texas 78728 .

### 6.1 SCOPE OF SERVICES

Aviat Networks will furnish the services outlined in the [Service Level Support](#) Section of this Agreement ("**Services**") for the products for Customer as may be required from time to time for the period specified in the [Duration of Support Period](#) Section providing receipt and acceptance of the Customer's purchase order. The Services will be provided in conformity with the terms, conditions, specifications and other requirements of this Agreement and each request for Services will be governed by the terms and conditions stated herein.

The Customer must ensure that the Products to be included in this Agreement be in good operating condition prior to the commencement of this Agreement. Aviat Networks, Inc. reserves the right to inspect any and all of the Products to be included in the Agreement prior to the commencement of the Agreement, and if the Product is found to be defective, the Customer shall be responsible for the cost of repair of the defective units.

An authorization to return units to Aviat Networks under this Agreement must be obtained from an Aviat Networks representative prior to making shipment to the Aviat Networks' Repair Center. Aviat Networks warrants that each Unit that is repaired or replaced under this Agreement, shall, at the time of return to Customer, for a period of ninety (90) days thereafter or until the expiration or termination of this Agreement, whichever is longer, be free from defects in materials and workmanship. Such warranty shall not include any consumable components to which a specific manufacturer's guarantee applies. If any Unit shall prove to be defective in materials or workmanship under normal intended usage, operation and maintenance during the term of this Agreement, as determined by Aviat Networks after examination of the Unit claimed to be defective, then Aviat Networks shall repair or replace, at Aviat Networks' sole option, such defective Unit, in accordance with procedures specified herein, at no additional cost, exclusive, however, of the cost of labor by the Customer's own employees, agents or contractors in identifying, removing or replacing the defective part(s) of the Units.

Liability of Aviat Networks for breach of any and all warranties hereunder is expressly limited to the repair or replacement of defective Units as set forth in this Agreement, and in no event shall Aviat Networks be liable for special, incidental or consequential damages by reason of any breach of warranty or defect in materials or workmanship.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED, OR STATUTORY. IN PARTICULAR, THE IMPLIED WARRANTIES OF FITNESS FOR PARTICULAR PURPOSE AND MERCHANTABILITY ARE HEREBY DISCLAIMED AND SHALL NOT BE APPLICABLE EITHER FROM AVIAT NETWORKS OR ANY OTHER EQUIPMENT MANUFACTURER. AVIAT NETWORKS' WARRANTY OBLIGATIONS AND CUSTOMER'S REMEDIES THEREUNDER ARE SOLELY AND EXCLUSIVELY AS STATED HEREIN. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS CONTRACT, UNDER NO CIRCUMSTANCES SHALL AVIAT NETWORKS BE LIABLE TO CUSTOMER OR ANY THIRD PARTY CLAIMING UNDER CUSTOMER FOR SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, OR LOSS OF CAPITAL, REVENUE OR PROFITS AS A RESULT OF A BREACH OF ANY PROVISION OF THIS CONTRACT. CUSTOMER HEREBY INDEMNIFIES AVIAT NETWORKS AGAINST ALL LOSS OR LIABILITY FROM CLAIMS BY CUSTOMER OR A THIRD PARTY ARISING OUT OF OR RELATING TO THE INSTALLATION, OPERATION, OR USE

OF THE EQUIPMENT, WHETHER ON ACCOUNT OF NEGLIGENCE OR OTHERWISE. IN NO EVENT SHALL AVIAT NETWORKS' LIABILITY TO CUSTOMER, OR ANY PARTY CLAIMING THROUGH CUSTOMER EXCEED THE LESSER OF \$100,000.00 USD OR THE ACTUAL SALES PRICE PAID BY CUSTOMER FOR ANY ITEMS SUPPLIED HEREUNDER.

#### **EXCLUSIONS:**

Except as set forth below, the following are excluded from the scope of this Agreement:

1. Repair or replacement of Products which have been subjected to:
  - damage as a result of Customer's fault, negligence, improper use or failure to maintain Products in good working order; or
  - accident (including fire, flood, storm, lightning strike, or other act of God)
2. Repair or replacement of Products furnished, modified, altered or repaired by Customer or any other third party other than Aviat Networks or its authorized agent.
3. Repair of Products that are not repairable due to lack of component availability.
4. Expedited Services such as Emergency Repair. Expedited Services may be requested and will be executed based on inventory availability only. Expedited Services will be quoted at time of service request;
5. Repair of Antenna Systems. Tower crews, and the associated dispatch/labor support, for repairing antenna systems are excluded from Warranty and Extended Warranty unless specifically identified as a purchased service option. Field support for antenna repair will be contracted by the Customer on a per incident basis.

#### **6.2 PRICES/PAYMENT/TAXES/SHIPPING**

All payments shall be made via check to the accounts specified on the invoice in advance of the commencement of each year of service/coverage. Customer shall make payment of the total amount due to Aviat Networks within thirty (30) days from the invoice date, unless otherwise specified or agreed to in writing by Aviat Networks. In the event any payment by Customer is past due, Aviat Networks reserves the right to withhold Services until such payment is received. Prices and payment terms for Services or Products not included in this Agreement, such as Emergency Repair, etc., will be established on a case-by-case basis subject to the mutual written agreement of the parties.

All prices are exclusive of all sales, use, excise, and other taxes, duties or charges. Unless evidence of tax exempt status is provided by Customer, Customer shall pay, or upon receipt of invoice from Aviat Networks, shall reimburse Aviat Networks for all such taxes or charges levied or imposed on Customer, or required to be collected by Aviat Networks, resulting from this transaction or any part thereof.

All shipments made by Aviat Networks under this Agreement are made via the methods (as applicable) outlined in the [Repair Services](#) and/or [Advance Replacement](#) Sections or the [Repair Logistics Program](#) Section (if purchased) of this Agreement. Unless instructed otherwise, Aviat Networks will arrange for standard commercial shipping. In the event Customer requires other than standard commercial shipping, Customer will be responsible for any additional costs incurred. Responsibilities regarding the export of items delivered under this Agreement are detailed in the [Export and Re-Export Restrictions](#) and [Export Documents](#) Sections below.

If payment is not made when due, Aviat Networks may assess interest on the overdue balance at the lesser of 1-1/2% per month or the maximum rate allowed by law.

#### **6.3 EXPORT AND RE-EXPORT RESTRICTIONS**

Performance and delivery of the equipment, documents, Services and Software sold or delivered hereunder are subject to export control laws and regulations of the United States, as applicable, and

conditioned upon receipt of required U.S. Government licenses and approvals by Aviat Networks. Customers shall not export or re-export Products or technical data delivered hereunder from the United States without complying with regulations of the Bureau of Export Administration of the United States Department of Commerce, as applicable. Customers shall not re-export the Products and technical data delivered hereunder from the country of delivery or to any facility engaged in the design, development, stockpiling, manufacturing or use of missile, chemical or biological weapons without fully complying with the regulations of the above United States government agencies. Customer warrants that it will comply with the United States Foreign Corrupt Practices act of 1997, as amended. Customer shall defend, indemnify and hold Aviat Networks harmless from and against any loss, damage, or liability arising out of Customer's failure to comply with this Section.

#### 6.4 EXPORT DOCUMENTS

Customer shipments, under this Agreement, to Aviat Networks shall be made via the methods (as applicable) outlined in the [Repair Services](#) and/or [Advance Replacement](#) Sections or the [Repair Logistics Program](#) Section (if purchased) of this Agreement. Customer shall be responsible for insurance and for clearing incoming Products through customs in their country.

Customers shall be responsible for obtaining any necessary import licenses into the country of delivery. Aviat Networks shall provide certificates of delivery, affidavits of origin, and other information under its control which is necessary for Customer to import Products.

Customers shall provide all information, certificates and Letters of Assurance necessary for Aviat Networks to obtain any export licenses required for Aviat Networks to export Products out of the country for repair, as applicable. Aviat Networks shall be responsible for selection and/or approval of freight forwarder(s). In the event that Customer wishes to utilize a freight forwarder that is not acceptable to Aviat Networks, Customer shall be the shipper of record and shall be responsible for obtaining required export licenses which shall be in the name of the Customer.

#### 6.5 EXCUSABLE DELAY

Aviat Networks shall be excused from performance under this Agreement and not be liable to Customer for delay in performance attributable in whole or in part to any cause beyond its reasonable control, including but not limited to, actions or inactions of government whether in its sovereign or contractual capacity, judicial action, war, civil disturbance, insurrection, sabotage, act of a public enemy, labor difficulties or disputes, failure or delay in delivery by Aviat Networks' suppliers or subcontractors, transportation difficulties, shortage of energy, materials, labor or equipment, accident, fire, flood, storm or other act of God, or Customer's fault or negligence, or where compliance with any applicable environmental law or regulation by Aviat Networks is not reasonably technologically or economically feasible, or would otherwise require Aviat Networks to change its manufacturing process. ("Excusable Delay").

In the event of an Excusable Delay, Aviat Networks shall make reasonable efforts to notify Customer of the nature and extent of such a delay and Aviat Networks (i) will be entitled to a schedule an extension on at least a day-for-day basis, and (ii) in the event the delay is caused by Customer's fault or negligence, Aviat Networks will be also entitled to an equitable adjustment in the price under this Agreement.

#### 6.6 TERMINATION

Either party may terminate this Agreement immediately upon written notice to the other party if: either party breaches any provision of this Agreement in any respect and such breach remains unremedied for thirty (30) days after written notice from the non-breaching party. In the event this Agreement is terminated due to a breach by Customer, Aviat Networks shall retain the entire amount of the annual fee paid by Customer.

The right of termination provided herein is absolute and neither party shall be liable to the other for damages or otherwise by reason of such termination.

## 6.7 ASSIGNMENT

Customer may not assign this Agreement in whole or in part without the prior written consent of Aviat Networks which shall not be unreasonably withheld.

## 6.8 GOVERNING LAW, VENUE AND JURISDICTION

This Agreement will be governed by and construed in accordance with the laws of the **State of Texas**. The parties agree that any action to enforce any provision of this Agreement or arising out of or based upon this Agreement or the business relationship between Aviat Networks and Customer will be brought in a **local or Federal court** of competent jurisdiction in, **Texas**.

## 6.9 ENFORCEABILITY

If any provision of this Agreement shall be held to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall in no way be affected or impaired.

## 6.10 LIMITATION OF LIABILITY

NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY OR ANY THIRD PARTY CLAIMING UNDER THE OTHER PARTY FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, AND CONSEQUENTIAL OR LOSS OF PROFIT TYPES OF DAMAGES AS A RESULT OF A BREACH OF ANY PROVISION OF THIS CONTRACT.

IN NO EVENT SHALL AVIAT NETWORKS' TOTAL LIABILITY TO CUSTOMER OR ANY PARTY CLAIMING THROUGH CUSTOMER EXCEED THE GREATER OF ONE HUNDRED THOUSAND UNITED STATES DOLLARS (\$100,000.00 USD) OR THE ACTUAL SALES PRICE PAID BY CUSTOMER FOR SERVICES SUPPLIED HEREUNDER.

THIS ARTICLE SHALL SURVIVE THE TERM OR EXPIRATION OF THE AGREEMENT. CUSTOMER AGREES TO INDEMNIFY AVIAT NETWORKS AGAINST ALL LOSS OR LIABILITY FROM CLAIMS BY CUSTOMER OR A THIRD PARTY ARISING OUT OF OR RELATING TO CUSTOMER'S INSTALLATION, OPERATION, OR USE OF THE SERVICES OR PRODUCTS PROVIDED HEREUNDER, WHETHER ON ACCOUNT OF NEGLIGENCE OR OTHERWISE.

## 6.11 COMPLIANCE WITH LAW

- a) Customer agrees to assist Aviat Networks to comply with any applicable conventions, laws, rules, regulations, and bylaws incident to its activities under this Agreement, including, without limitation, United States export control regulations, the United States Foreign Corrupt Practices Act, and the United States anti-boycott regulations. Customer will promptly deliver to Aviat Networks a copy of any notice or instrument alleging a violation of any of these laws.
- b) Customer warrants that Customer shall comply with any and all applicable US federal and state laws, and shall operate in good faith to comply with other laws and regulations and industry best practices, applicable to Customer's performance hereunder, and shall promptly act to correct any noncompliance once identified.
- c) EXPORT AND RE-EXPORT RESTRICTIONS. Customer acknowledges that the Equipment and Licensed Programs sold or licensed to it by Aviat Networks under this Agreement may be subject to export controls under the laws of the United States or Canada. Customer will not export or re-export the Equipment or Licensed Programs, technology, or products manufactured from the technology that are the subject of the Agreement in violation of the export control laws of the United States or Canada.

6.12 ENTIRE AGREEMENT

This Agreement supersedes all previous communications, transactions, and understandings, whether oral, or written, and constitutes the sole and entire agreement between the parties pertaining to the subject matter hereof. No modification or deletion of, or addition to these terms shall be binding on either party unless made in writing and signed by a duly authorized representative of both parties.

7. SIGNATURES

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in their respective names.

**AVIAT U.S., Inc.**

**Customer**

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

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

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

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# AviatCare Service & Support Agreement

FOR:

- **East Bay Regional Communications System Authority (EBRCSA)**

**August 15, 2018**

✓ **Renewal of Services**

- a. 7 X 24 Technical Support
- b. Repair Services

✓ **Optional Services**

- c. Corrective Maintenance: Ground
- d. Preventive Maintenance: Ground
- e. 7 X 24 Remote Monitoring

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# 1. AviatCare Services: Maintenance Coverage

## 1.1. SERVICE LEVEL SUPPORT SUMMARY

The following table summarizes the Service Level Support that will be delivered to the East Bay Regional Communications System Authority (EBRCSA):

ITEM	SUPPORT ELEMENT	DESCRIPTION	SLA TARGET
5.1	Repair Services	Covers repair or replacement of covered FRU's beyond the manufacturer standard equipment warranty period. Please note unless otherwise agreed within this Agreement the following Turnaround times represent our commitments: North America and Caribbean: - Currently manufactured products – 20 Calendar Days	Varies (see Section 5.1), unlimited quantities
5.2	Advance Replacement	Provides advance replacement of a FRU prior to receiving the defective FRU at one of our Customer Support Centers for repair. When included within one of our maintenance programs the total number of requests received for advanced replacement units cannot exceed ten percent (10%) of the total number of Repair Service transactions during the coverage period without additional charges being incurred by the customer. NOTE – If defective FRU is not received within 30 days of RMA issuance customer will be charged the then current list price for the unit, in addition to the Advanced Replacement charges, if any. Standard Advanced replacement –5 business days (based on availability)	Based on availability and regional shipping restrictions
5.3	Repair Logistics Program	Aviat Networks shall provide free freight to the Customer for all Units returned via the Aviat Networks Repair Logistics Program (RLP). Upon RMA request, Aviat Networks will dispatch the appropriate courier to the customer's facility to pick-up the defective Units. When the repaired or replacement unit is ready Aviat Networks will dispatch appropriate courier to the customer's facility to deliver the replaced/repaired unit.	See Section 5.3
5.4	Remote Technical Support 24/7	Service requests (SR's), remote technical support, and troubleshooting support.	24 x 7 Unlimited number of SRs
5.6	Corrective Maintenance	4-hour onsite SLA Emergency ground technician	4-hour SLA
5.7	Preventive Maintenance	Annual maintenance plan covering all equipment as outlined in Section 4: Support Costs	Annually per site
5.8	Remote Monitoring Services	24x7x365 remote monitoring, diagnostics, troubleshooting, notification, dispatch, and reporting services through the Aviat Networks' Network Operations Center.	24 x 7 Monitoring

## 2. SUPPORTED PRODUCTS

- a) Unless otherwise expressly listed in the table below, all Third-Party Computing Hardware and OEM are excluded from the definition of Supported Product (and therefore shall not be eligible to receive Support); and
- b) Only the Systems in the following Customer Networks shall be deemed Supported Products (and therefore shall be eligible to receive Support):

### **Full Network (Existing and New Equipment, All Sites)**

<b>EBRCS Microwave System</b> <b>SO: 2314941, 2315387, A71565, A81688</b>
--

Alameda County 34 Sites		Contra Costa County 26 Sites	
Qty	Equipment Description	Qty	Equipment Description
102	Truepoint 5200	38	Truepoint 5200
6	IRU600	18	IRU600
2	Eclipse ODU300	10	Eclipse ODU300
17	Asentria Remote Alarms	16	Asentria Remote Alarms
74	Commscope Antenna Systems	24	Commscope Antenna Systems
31	Commscope Dehydrators	13	Commscope Dehydrators
29	Emerson Chargers	10	Emerson Chargers
14	Fujitsu Mux	9	Fujitsu Mux
1	Larus Time Clock	1	Sageon Charger

Alameda County	Alameda County	Alameda County	Alameda County	Contra Costa County**	Contra Costa County**	Contra Costa County**
Crane Ridge	East Dublin Bart	Hayward Annex	Oakland PD	El Cerrito PD	40 Glacier	Marsh Creek
Carol Drive – Not Included	WALPERT RIDGE	San Leandro Hills	Lakeside	Knob Hill	Kregor Peak	Highland Peak
Warm Springs	Newark PD	San Leandro Comm	Piedmont PD	Richmond Comm Ctr	Concord PD	Los Vaqueros
Livermore PD	Fremont PD	Seneca	Glen Dyer Jail	Pearl Reservoir	Walnut Creek Bart	San Ramon (Peters Ranch)
Pleasanton PD	Union City	San Leandro PD	Oakland APL	Turquoise	Walnut Creek PD	Santa Rita Jail Passive Repeater*
Sunol Ridge – Not Included	Patterson Pass	MSC	Santa Rita Jail Passive Repeater*	Alt4a Mesa	FS85 Stoneman	Bald Mtn*
Doolan WT	Coyote Hills	Emeryville FD	Bald Mtn*	Pine Street	Shadybrook	Rocky Ridge*
Twin Peaks	Alameda PD	Albany PD	Rocky Ridge*	Cummings Peak	Marsh Creek Passive repeater	Alameda EOC*
Berkeley PD	LALX UC Berkeley Labs	Skyline	Alameda EOC*	Pinole PD	Martinez	

\*Parallel links

\*\*Includes technical support and repair services. NOC and Emergency On-site Corrective Maintenance services are not included

### 3. DURATION OF SUPPORT PERIOD

The support period of the Maintenance Agreement is provided in the table below:

	START	FINISH
<b>REMOTE TECHNICAL SUPPORT 24 X 7</b>	October 1, 2018	September 30, 2021
<b>REPAIR SERVICES</b>	October 1, 2018	September 30, 2021
<b>CORRECTIVE MAINTENANCE</b>	October 1, 2018	September 30, 2021
<b>PREVENTIVE MAINTENANCE</b>	October 1, 2018	September 30, 2021
<b>REMOTE MONITORING</b>	October 1, 2018	September 30, 2021

#### 4. SUPPORT COSTS

Services	Services Part Number	Product Qty	Price
<b>WarrantyPlus</b> ✓ Priority Technical Support: Available 24 X 7 (Unlimited)  ✓ AviatCloud Portal: Available 24 X 7 (Unlimited) Level 2  ✓ Repair Services: ➤ 20 Calendar Day turnaround time on Aviat Networks manufactured equipment ➤ Advance Replacement  ✓ Repair Logistics Program: Shipping covered by Aviat to and from	<b>Contra Costa County</b>		
	SNA-BNWX1003638	• (18) IRU600	\$18,252
	SNA-BNWX1003633	• (38) Truepoints	\$46,398
	SNA-BNWX1003630	• (10) ODU300	\$10,110
	<b>Contra Costa County WarrantyPlus Sub-Total</b>		<b>\$74,760</b>
	<b>Alameda County</b>		
	SNA-BNWX1003638	• (6) IRU600	\$6,084
	SNA-BNWX1003633	• (102) Truepoints	\$124,542
	SNA-BNWX1003630	• (2) ODU300	\$2,022
	<b>Alameda County WarrantyPlus Sub-Total</b>		<b>\$132,648</b>
<b>OEM Extended Warranty</b> ✓ Technical Support: Available 24 X 7  ✓ AviatCloud Portal: Available 24 X 7  ✓ OEM Repair Services: All OEM is an extension of Warranty offered by the Vendor (No advanced replacement); Targeted 30 Calendar Day turnaround time; Based on availability of vendor inventory	<b>Contra Costa County Extended Warranty (OEM)</b>		
	SWW-OMEW000036MC	• (10) Emerson Charger	\$6,372
	SWW-OMEW000036MC	• (1) Sageon Charger	\$531
	SWW-OMEW000036AS	• (16) Asentria Remote Alarms	\$6,000
	SWW-OMEW000036AN	• (13) Commscope Dehydrators	\$4,329
	SWW-OMEW000036FJ	• (9) Fujitsu Sonet Mux	\$27,324
	<b>Contra Costa County Extended Warranty (OEM) Sub-Total</b>		<b>\$44,556</b>
	<b>Alameda County Extended Warranty (OEM)</b>		
	SWW-OMEW000036AS	• (17) Asentria Remote Alarms	\$6,375
	SWW-OMEW000036AN	• (31) Commscope Dehydrators	\$10,323
	SWW-OMEW000036MC	• (29) Emerson chargers	\$15,399
	SWW-OMEW000036FJ	• (14) Fujitsu Sonet Mux	\$42,504
SWW-OMEW000036LR	• (1) Larus Timing Clock	\$840	

	<b>Alameda County Extended Warranty (OEM) Sub-Total</b>		<b>\$75,441</b>		
			<b>Contra Costa County Sub-Total 3-Years</b>		
			<b>\$119,316</b>		
			<b>Alameda County Sub-Total 3-Years</b>		
			<b>\$208,089</b>		
			<b>Contra Costa and Alameda County's Sub-Total 3-Years</b>		
			<b>\$327,405</b>		
			<b>Multi-Year Discount (10%)</b>		
			<b>(\$32,741)</b>		
			<b>Contra Costa and Alameda County's Grand Total 3-Years</b>		
			<b>\$294,664</b>		
			<b>Annual Invoice</b>		
			<b>\$98,221</b>		
<b>Alameda County</b>			<b>Contra Costa County</b>		
	<b>1 year</b>	<b>3 years</b>		<b>1 year</b>	<b>3 years</b>
Radio WarrantyPlus	\$44,216	\$132,648	Radio WarrantyPlus	\$24,920	\$74,760
OEM Extended Warranty	\$25,147	\$75,441	OEM Extended Warranty	\$14,852	\$44,556
Sub-Totals	\$69,363	\$208,089	Sub-Totals	\$39,772	\$119,316
	<b>10% multi-year discount</b>	<b>(\$20,809)</b>		<b>10% multi-year discount</b>	<b>(\$11,932)</b>
<b>Grand Totals</b>	<b>\$69,363</b>	<b>\$187,280</b>	<b>Grand Totals</b>	<b>\$39,772</b>	<b>\$107,384</b>
	<b>Annual Invoice*</b>	<b>\$62,427</b>		<b>Annual Invoice*</b>	<b>\$35,795</b>
<b>Combined Annual Invoice: \$98,221</b>					

\*Multi-Year discount and annual invoice option requires PO for full 3-year amount

## Optional Managed Services (3-Years)

### Corrective Maintenance: **Ground**

<b>Corrective Maintenance Ground</b> ✓ 4-hour SLA Emergency on-site service restoration and equipment fault correction and replacement	SWW-MSCMXX003699	<ul style="list-style-type: none"> <li>• <b>Contra Costa County (26) Sites</b></li> <li>• (36) Dispatches over 3-Years</li> </ul>	\$38,981
	SWW-MSCMXX003699	<ul style="list-style-type: none"> <li>• <b>Alameda County (34) Sites</b></li> <li>• (36) Dispatches over 3-Years</li> </ul>	\$38,981

### Preventive Maintenance: **Ground**

<b>Preventive Maintenance Ground</b> ✓ Dedicated resource on-site to perform system health check ✓ Includes one-hour routine corrective maintenance, performance, and protection testing	SWW-MSPMXX003699	Contra Costa County <ul style="list-style-type: none"> <li>• (26) Annual Site Visits</li> </ul>	\$84,459
	SWW-MSPMXX003699	Alameda County <ul style="list-style-type: none"> <li>• (34) Annual Site Visits</li> </ul>	\$110,447

### Network Monitoring

<b>Remote Monitoring</b> ✓ Around-the-clock monitoring (24 X 7 X 365) via the Aviat Networks Secure Network Operation Center (NOC) ✓ Provides end-to-end operations management solutions	<b>Contra Costa County</b>		
	SWW-MSXXE2XX3699	• Truepoints	\$63,807
		• IRU600	
		• ODU300	
		• Asentria Remote Alarms	\$38,028
		• Commscope Dehydrators	
		• Emerson Chargers	
		• Sageon Charger	
		• Fujitsu Sonet Mux	\$1,935
	• Annual Fee: NOC Router C891F Monitoring Routers		
	<b>Alameda County</b>		
	SWW-MSXXE2XX3699	• Truepoints	\$106,347
		• IRU600	
• ODU300			
• Asentria Remote Alarms		\$67,287	
• Commscope Dehydrators			
• Emerson Chargers			
• Larus Timing Clock			
• Fujitsu Sonet Mux			

		• Annual Fee: NOC Router C891F Monitoring Routers	\$1,935
<b>Contra Costa County Managed Services Sub-Total 3-Years</b>			<b>\$227,210</b>
<b>Alameda County Managed Services Sub-Total 3-Years</b>			<b>\$324,997</b>
<b>Multi-Year Discount (10%)</b>			<b>(\$55,221)</b>
<b>Contra Costa and Alameda County's Grand Total 3-Years</b>			<b>\$496,986</b>
<b>Annual Invoice</b>			<b>\$165.662</b>
<b>Purchase of 3-Year contract waives the 1-Year Start Up Fee (\$12,600)</b>			

**Pricing Notes:**

- Prices quoted and payable in US Dollars
- Pricing will be valid for 60 days
- Any Purchase Order resulting from this proposal shall be subject to Terms and conditions of sale.
- Prices reflect scope of work as specified within this proposal
- Only the equipment listed in the above table shall be eligible to receive support this includes any spare units purchased under the above Aviat Networks Sales Order Numbers. All consumable items such as cables or batteries are excluded
- Maintenance Agreement does not include any facility maintenance. It will be East Bay Regional Communications System Authority (EBRCSA) responsibility to maintain all towers, shelters, air conditioners, generators and propane tanks (if applicable)
- The Aviat Networks maintenance level agreement requires that all similar products within the network be covered under similar service levels

## 5. SERVICE LEVEL SUPPORT DESCRIPTION

### Access to Aviat Networks Customer Online Technical Support Site

The Customer will have access to the Aviat Networks Customer Online Technical Support web site 24/7 for a variety of tools and support services. Those tools/services include:

1. RMA Request & Status Updates.
2. RMA Reporting such as repair turnaround time performance.
3. Technical Support such as Service Request opening, reporting and status.
4. Information databases such as technical notes, frequently asked questions, solutions for commonly asked technical or operational issues.
5. Software Downloads.
6. Sales Order tracking and status (Eclipse Only).

URL: <http://www.aviatcloud.com/>

### 5.1 REPAIR SERVICES

Repair services are available to the Customer during the standard manufacturing equipment warranty period. This includes any repair or replacement of defective units during the stated warranty period. There may be additional charges during the warranty period for this service if customers are found to be returning a high level of NFF units, require advanced replacements, or send in a non-repairable unit. Prior to the warranty period expiring, customers may procure ongoing access to this support service through the purchase of an extended warranty program or through one of our AviatCare Maintenance support offerings. Otherwise the Repair service is made available for out of warranty products through a Per Incident billing process that can be enabled through our regional RMA Desk. See further details on how repair services are provided below.

All equipment under this specific Maintenance Level Agreement will be covered with our standard Repair / Replace policy. There is no limit to the number of units returned for repair, but customer is subject to the same limitations for

No Fault Found (NFF), damaged beyond repair units, non-returned Advanced replacement units where additional charges may apply:

- a) **Repair Center Support.** Customer shall place all RMA requests at the following link: [https://aviatcloud.com/rma\\_tracking.asp](https://aviatcloud.com/rma_tracking.asp) . This link is available for use 24 hours a day, 7 days a week. Customers can also email or fax RMA requests to the appropriate Aviat Networks Repair Center. Aviat Networks will typically fax or email a confirmation with an RMA reference number within one (1) business day. Requests can also be made via telephone during such Aviat Networks Repair Center's Business Hours.

For Aviat Networks to process an RMA request, the customer must provide the following information:

- Company name;
- Shipping and billing address;
- Part Number;
- Serial Number of the defective unit(s)
- Unit software load;
- Description of the suspected failure;
- Whether any special requirements exist;
- Maintenance Level Agreement contract number (if applicable); and
- Provide a purchase order at the applicable price for billable requests. Billable requests include any request for express service regardless of warranty status. Contact your local Aviat Networks Repair Center for price information.

- b) **Turnaround Time.** Aviat Networks will provide a Turnaround time on repair as per the following:

- 20 Calendar Day turnaround time on Aviat Networks manufactured equipment
- 45 Calendar Day turnaround on Aviat Networks Manufactured Discontinued equipment

- c) **Turnaround Time Calculation.** Turnaround time is measured from the time that a Returned Unit is received at the Aviat Networks Repair Center, which will be advised at time of issuing a RMA, until the time that it is shipped from the Aviat Networks Repair Center. Thus, the measurement of turnaround time does NOT begin when the Returned Unit is shipped from Customer's premises and does NOT include the shipping time accrued after the Returned Unit is shipped from the Aviat Networks Repair Center to Customer's premises. Additionally, Turnaround time will not be guaranteed in the following situations:

- If more than five (5) Units of the same type or more than ten (10) Units of any type are received at the same time.
- Missing information such as failure details, return shipping address, shipping instructions and/or any other information that may affect the start of the repair process of the shipment of the Returned Unit as the repair completed.
- Any Returned Unit is deemed No Fault Found.
- Any Returned Unit received due to any of the reasons listed in the [Exclusions from Repair & Return](#) Clause of this Section.
- Any Returned Unit received improperly packaged and therefore sustained physical or electrostatic damage in shipping.
- Returned Units placed in Isolation.
- Event of Excusable Delay as described under the [Excusable Delay](#) Clause of the Additional Terms & Conditions Section of this Agreement.

- d) **OEM.** For OEM, repair turnaround times are set by the OEM supplier. Aviat Networks close working relationship with OEM suppliers assures the best possible turnaround time. These times will be communicated to customer at time of RMA issuance.

- e) **Packaging and Shipping Procedures.** Both Aviat Networks and the Customer are obligated to ensure that all deliveries are packaged in such manner as to achieve suitable mechanical and environmental protection during storage, handling and transport to the delivery address. Electrostatic Discharge (ESD) precautions should be

followed during handling and packaging of all Units delivered. For each consignment of Units shipped to Aviat Networks, the Customer must provide a detailed Packing List and Commercial (Proforma) Invoice to support the delivery. Each Commercial Invoice must clearly state the full description, the value of each Unit and the RMA Number. Once a Unit has been repaired and shipped to the Customer at the address provided by the Customer upon RMA request, Aviat Networks will send a pre-alert notification to the Customer comprising a faxed copy of the Commercial Invoice and Airway Bill Number pertaining to the shipment.

- f) **Exclusions from Repair & Return.** The services to be rendered by Aviat Networks under this Agreement shall not comprise any damage, defects, malfunctions or failures caused by one or more of the following:
- Damage caused by mishandling, customer or third-party negligence, abuse or operation outside the Aviat Networks environment specifications, or due to a cause not solely attributed to Aviat Networks.
  - Modifications, alterations, or repairs made other than by Aviat Networks.
  - Damages by persons other than Aviat Networks or its authorized service providers.
  - Any modification, removal or obliteration of a serial number or other identifying mark or any attempts thereof other than by Aviat Networks' authorized personnel.
  - Damage that occurs during shipment from the Customer premises to Aviat Networks' premises outside the RLP (if applicable).
  - Installed, stored, used, handled or maintained contrary to Aviat Networks' written instructions.
  - Used in conjunction or combination with third-party material or equipment without the consent of Aviat Networks.
  - Units returned for repair where there has been misuse, neglect, power failures, surges, accident or acts of nature such as fire, lightning strikes or flood.

Repairs necessitated during the Agreement period by any of the above causes may be made by Aviat Networks, and the Customer shall pay Aviat Networks' standard charges for time and materials, together with all shipping and handling charges arising from such repairs.

- g) **Stockpiling of Failed Units.** The Customer agrees to obtain an RMA Number for all failed Units from an Aviat Networks Repair Center immediately following a failure and return the Units for repair immediately after receipt of the RMA Number from Aviat Networks. The customer agrees that this Agreement will not apply retrospectively to cover any Units failed and in the Customer's possession prior to the execution date of this Agreement and will not apply to any Units for which RMA Numbers had already been obtained from Aviat Networks prior to the date of execution of this Agreement. Following execution of this Agreement the Customer agrees not to stockpile failed Units and accepts that Aviat Networks will not be required to meet the Turnaround Times outlined in this Agreement if the Units are not returned to Aviat Networks on receipt of an RMA Number or if they are stockpiled.
- h) **No Fault Found Fee.** If the number of Returned Units that the Customer reports are defective, but are thereafter tested by Aviat Networks and found to meet the applicable Aviat Networks Product specifications, exceeds ten percent (10%) of the total number of Returned Units received by Aviat Networks from the Customer during each year of the Support period, then Aviat Networks will charge the Customer the then-current [No Fault Found](#) inspection fee for each such non-defective Returned Units in excess of such ten percent (10%).
- i) **Damaged Beyond Repair.** Returned Units that Aviat Networks (in its sole discretion) determined are damaged Beyond Repair or have been repaired (or otherwise modified) by a party other than Aviat Networks will be placed in Isolation. The Customer shall be advised by fax or e-mail, within ten (10) days working days, of the nature and extent of the damage. The Customer shall be responsible for informing Aviat Networks of the next course of action. If the Customer decides to replace the Unit(s), they must follow the usual purchasing process. Note: If the Returned Unit is no longer in current manufacture and/or is OEM, Aviat Networks will not guarantee availability of a Unit for sale.

## 5.2 ADVANCE REPLACEMENT

Advance Replacement provides the Customer with shipments of a limited number of Units intended as an advanced replacement of Returned Units, upon the Customer's request. The service encompasses the following:

- a) **Repair Center Support.** Customer shall place Advance Replacement requests at the following link: [https://aviatcloud.com/rma\\_tracking.asp](https://aviatcloud.com/rma_tracking.asp). This link is available for use 24 hours a day, 7 days a week. Customers can also email or fax the RMA request to the Aviat Networks Repair Center. Aviat Networks will typically fax or email a confirmation with an RMA Number within one (1) business day. Requests can also be made via telephone during such Aviat Networks Repair Center's Business Hours.
- b) **Shipping Costs.** Customer is responsible for all charges associated with shipping the Returned Unit to the designated Aviat Networks Repair Center, which shall be made pursuant to the delivery term DDU (Delivered Duty Unpaid) Aviat Networks Repair Center (Incoterms:2000). Aviat Networks is responsible for the charges associated with shipping the Returned Unit back to the Customer, which shipment shall be made pursuant to the delivery term DDU (Delivered Duty Unpaid), Customer's premises (Incoterm:2000).
- c) **Packaging and Shipping Procedures.** Both Aviat Networks and the Customer are obligated to ensure that all deliveries are packaged in such manner as to achieve suitable mechanical and environmental protection during storage, handling and transport to the delivery address. Electrostatic Discharge (ESD) precautions should be followed during handling and packaging of all Units delivered. For each consignment of Units shipped to Aviat Networks, the Customer must provide a detailed Packing List and Commercial (Proforma) Invoice to support the delivery. Each Commercial Invoice must clearly state the full description, the value of each Unit and the RMA Number. Once a Unit has been repaired and shipped to the Customer at the address provided by the Customer upon RMA request, Aviat Networks will send a pre-alert notification to the Customer comprising a faxed copy of the Commercial Invoice and Airway Bill Number pertaining to the shipment.
- d) **Returned Unit.** If this Agreement entitles the Customer to the RLP Program and the Customer elects to use it for the Returned Unit, the Customer will be invoiced for the List Price of the Advance Replacement Unit(s) if Aviat Networks does not receive notification to pick-up the pertinent Returned Unit, at most, ten (10) days after Customer's receipt of the Advance Replacement Unit. In the event that the Customer is not entitled to the RLP Program or the Customer elects to return the Returned Unit to Aviat Networks via a freight forwarder outside of the RLP Program, the Customer will be invoiced for the List Price of the Advance Replacement Unit if Aviat Networks does not receive the pertinent Returned Unit at the Aviat Networks Repair Center within, at most, thirty (30) days after receipt of the Advance Replacement Unit. The Returned Unit will become the property of Aviat Networks. The Customer agrees that the Returned Unit must be repairable and does not fall into any of the categories listed in the [Exclusion from Advance Replacement](#) clause.
- e) **Exclusion from Advance Replacement.** The services to be rendered by Aviat Networks under this Agreement shall not comprise any damage, defects, malfunctions or failures caused by one or more of the following:
  - Damage caused by mishandling, customer or third-party negligence, abuse or operation outside the Aviat Networks environment specifications, or due to a cause not solely attributed to Aviat Networks.
  - Modifications, alterations, or repairs made other than by Aviat Networks.
  - Damages by persons other than Aviat Networks, or its authorized service providers.
  - Any modification, removal or obliteration of a serial number or other identifying mark or any attempts thereof other than by Aviat Networks' authorized personnel.
  - Damage that occurs during shipment from the Customer premises to Aviat Networks' premises outside the RLP (if applicable).
  - Installed, stored, used, handled or maintained contrary to Aviat Networks' written instructions.
  - Used in conjunction or combination with third-party material or equipment without the consent of Aviat Networks.

- Units returned for repair where there has been misuse, neglect, power failures, surges, accident or acts of nature such as fire, lightning strikes or flood.
- f) **No Fault Found Fee.** If the number of Returned Units that the Customer reports are defective, but are thereafter tested by Aviat Networks and found to meet the applicable Aviat Networks Product specifications, exceeds ten percent (10%) of the total number of Returned Units received by Aviat Networks from the Customer during each year of the Support period, then Aviat Networks will charge the Customer the then-current [No Fault Found](#) inspection fee for each such non-defective Returned Units in excess of such ten percent (10%).
  - g) **Limits.** Customer is entitled to receive a limited number of Advance Replacement Units per year. This number is not to exceed ten percent (10%) of the total Repair & Return requests during that year. Accrued Advance Replacement Units that have not been requested by the Customer may not be carried over to the next year. Additional Advance Replacement Units will be provided at Aviat Networks' then current prices, terms and conditions.
  - h) **Unavailability.** If an Advance Replacement Unit is not available, then Aviat Networks will repair the Returned Unit within a mutually agreed Turnaround time. Customer agrees that repair of the Returned Unit shall be Aviat Networks' sole obligation, and the Customer's sole remedy, if an Advance Replacement Unit requested by the Customer is not available.
  - i) **Turnaround Time Commitments.** Standard Advanced Replacement service ensures customer will receive a comparable unit to the one being returned within 3 to 5 business days from date of RMA. If customer requires a replacement unit in a shorter period, there is an added charge for this and based on replacement unit availability will be delivered on a next business day basis. Customer will be informed at time of RMA request whether this service can be provided or not depending on component availability.

### 5.3 REPAIR LOGISTICS PROGRAM (RLP)

Aviat Networks shall provide free freight to the Customer for all Units returned via the Aviat Networks Repair Logistics Program (RLP). If the Customer returns units to Aviat Networks via a freight forwarder outside of this Program, all freight expenses and damage liability will be the responsibility of the Customer. Aviat Networks is responsible for all tariffs, duties, or taxes associated with importing Units for repair. After the repair, the Units shall be returned to the Customer DDU (Delivered Duty Unpaid) Customer's premises (Incoterms 2000). To implement the return of a Unit via this Program the Customer shall request an RMA for the Unit using the link in the [Repair Services](#) or [Advance Replacement](#) Sections or the contact information as listed in the [Aviat Networks Contacts](#) Section.

**Liability of Units Damaged During Shipping.** Aviat Networks will assume responsibility for insuring the Units against loss or damage that is moving via the RLP. The Customer shall examine the condition of all shipments returned from Aviat Networks via the RLP at the time of delivery. Visible signs of damage shall be brought to the attention of the carrier and the contents shall be examined for damage immediately. Aviat Networks will not be liable for any direct reports by the Customer for Units that are found to be damaged upon receipt by the Customer that are made over seven (7) days after the Units have been delivered. Units damaged through transit shall be returned for repair at Aviat Networks through the normal return process. Damage or loss incurred to Units shipped to Aviat Networks by the Customer outside the RLP shall be the responsibility of the Customer.

### 5.4 REMOTE TECHNICAL SUPPORT 24 X 7

Customer 24 X 7 Remote Support

24 X 7 Remote Support provides around-the-clock (24 X7) telephone access to Aviat Networks' Technical Assurance Center to resolve Critical Service Requests, Major Service Requests, Minor Service Requests and Inquiry Service Requests.

- a) **Telephone Number.** Customer may contact Aviat Networks' Technical Assistance Center (TAC) regarding such Service Requests via telephone at any time during normal business hours. **OR** Customer may contact Aviat

Networks' Technical Assistance Center (TAC) regarding such Service Requests via telephone at any time during the day or night. For night support services (after business hours in the local time zone), Aviat Networks will handle all such requests that are Critical or Major that the Customer reasonably categorizes as being High Priority. In addition, with this service customer can pre-schedule after hours support when doing a new software installation or a network upgrade related to covered equipment.

- b) **Rapid Response Time.** Aviat Networks will route Critical Service Requests to the appropriate TAC subject matter expert within fifteen (15) minutes of call receipt.
- c) **Service Request Number.** Aviat Networks will assign, to each Service Request, a number that will be logged, tracked and stored in our Case Management database.
- d) **Service Request Management.** Aviat Networks will dedicate continuous attention to Critical and Major Service Requests until service is restored or request is closed. Aviat Networks will work to resolve the Service Request until Customer accepts the proposed solution, at which point the TAC will close the Service Request.
- e) **Documented Escalation Procedures.** Aviat Networks will implement internal escalation and notification procedures in order to facilitate the timely resolution of Service requests by a TAC Engineer with an adequate level of expertise. The technical support process includes rigid managerial escalations that are intended to facilitate the appropriate handling of recovery efforts and Customers being regularly updated on the status of the Service Request. Additional information on this escalation process is available in our Global Network Service Customer Support guidelines document available on our website at [www.aviatnetworks.com](http://www.aviatnetworks.com).
- f) **Service Request Submission.** Under this Agreement, there is no limit to the number of Service Requests that Customer may submit for resolution. Customer may also define and authorize specific users within its organization to have access to this Service Request Submission Service. To ensure appropriate management of this support Aviat Networks has implemented a Support Assurance Program where an Express PIN will be assigned to each customer which clearly identifies the level of service a customer is entitled to receive. All Service Request Submissions will require Express PIN information prior to being submitted.

#### Service Request Severity Classifications

There are four (4) Service Request severity classifications: (a) Critical; (b) Major; (c) Minor; and (d) Inquiry. Critical, Major and Minor Service Requests pertain to problems in the Product. Inquiry Service Requests pertain to questions about the Product or Services. The four (4) Service Request severity classifications are defined as follows:

- a) **Critical Service Requests** are those that severely affect service, traffic, billing and/or maintenance capabilities, and require immediate corrective action (regardless of the time of day or day of the week).
- b) **Major Service Requests** are those that cause conditions that seriously affect Product operation, maintenance and/or administration, and require immediate attention. The urgency is less than in Critical Service Requests because of a lesser immediate or impending effect on Product performance, customer and/or network operation and revenue.
- c) **Minor Service Requests** are problems that are tolerable during Product use, do not significantly impair the functioning of the Product and do not significantly affect service to customers.
- d) **Inquiry Service Requests** are questions about technical details concerning the usage or behavior of the Product.

## 5.6 CORRECTIVE MAINTENANCE

Corrective maintenance provides for the dispatch of the necessary support personnel and test equipment for the purposes of diagnosing a problem, restoring service or correcting a service request that Aviat Networks has unsuccessfully attempted to resolve remotely from one of our Technical Assistance Centers.

All sites under maintenance must have undergone full commissioning and proven to be in good working condition. The Customer shall make available site commissioning and acceptance data if requested by Aviat Networks.

The service is provided according to the following Service Level Agreement (SLA):

CRITICAL FAULTS	4 Hours
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Aviat Networks shall use its best effort to be onsite within four (4) hours of the Aviat Networks first level support personnel receiving emergency onsite support requests. Notwithstanding anything contained herein to the contrary, all services provided may be performed by Aviat Networks directly or through one or more qualified Subcontractors. Aviat Networks shall coordinate, supervise, manage and be responsible for the services of all the Subcontractors.

**Limitations:** In order to meet the on-site SLA response requirements, the Customer is responsible for providing access to difficult to reach sites (i.e. site not accessible by public road using 2 wheel-drive vehicles or those requiring specialized transport vehicles) or to sites that require customer presence. The customer is responsible for provisioning and making available spare parts.

## 5.7 PREVENTIVE MAINTENANCE

Preventative Maintenance provides a resource to work with the customers in reviewing operational aspects related to the performance of Microwave equipment and associated software within the customer's network. A resource will come on-site to all customer locations covered under the associated agreement for this service. Once analysis is complete, Aviat Networks will provide a written summary of findings and recommendations related to the work that has taken place.

An engineer is deployed to site as per the customer and Aviat agreed upon schedule commitment for this service. A system health check on Aviat Networks' equipment will be completed which includes performance testing and an analysis of historical data. A visual site audit is included under this service offering, which includes the following: (Complete Checklist in Attachment 1: Preventive Maintenance Checklist)

- Spot check Internal and external grounding
- Visual inspection of indoor and outdoor equipment
- Visual inspection of all cables, connectors, weather proofing
- Verify DC power levels

During the on-site time, the Aviat Networks' resource may recommend routine maintenance to the customer – which will be the responsibility of the customer to perform - and the Aviat Networks resource may, with the customer's agreement, perform routine upgrades to operating firmware or software that do not require network downtime. This preventative service work covers all Aviat Networks Microwave radio equipment, associated OEM equipment, DC systems and the Antenna Systems.

A final report will be presented to the customer stating findings, conclusions and any further recommendations. This preventative service work includes one day of time to visit with customer and review in detail the findings from preventative analysis effort.

## 5.8 REMOTE MONITORING SERVICES

Aviat Networks' Managed Network Services solution provides customer with a bundled offering that combines traditional network monitoring and event management services with fault resolution to offer end-to-end operations management solutions. When bundled together, services in this portfolio offer a broad, all-in-one-solution set managed through a single point of contact – the Aviat Network Management Center (NMC). Aviat Networks is providing customer with the following bundled services:

- **Surveillance and Network Monitoring**
  - Continuously monitor network elements.
  - Detect / Identify Faults and Alarms
- **Event Management**



- ~90%+ of trouble tickets are resolved within the NOC without any interaction with TAC
- Tier 2: TAC
  - If the problem is not resolved within the target resolution time – associated with each of the severity levels, then there is an automatic process by which the issue will escalate to the next level of support to pursue resolution, at this time notification also takes place to Management identifying fact issue has went beyond our accepted timeframe for resolution.
  - Tier 2 generally is required when the issue is beyond simple hardware failures. Usually involves some level of configuration, hardware not operating exactly as specified, or when problem is intermittent in nature.
  - ~8% of trouble tickets are resolved within Tier 2 after escalation from the NOC.
- Tier 3: TAC
  - If the problem is not resolved within the target resolution time, after Aviat Networks initiates the troubleshooting process, then Aviat Networks will escalate to management and next level of support to pursue resolution.
  - Tier 3 TSE typically gets involved when there are complex interoperability issues identified between the microwave and other components in the network, when problem appears to be software related (i.e., a bug), or when new products or software have been introduced into the network and cause issues not previously seen before.
  - ~2% of trouble tickets are resolved within Tier 3 after escalation from Tier 2.

5.8.2 SLA

SR Priority Level	Alarm Severity	Event / Alarm Ack	Customer Event Alarm Notification	Aviat Reaction Time	Usage	Response
1	<u>CRITICAL (Service Affecting)</u>	<u>&lt; 5 min</u>	<u>&lt; 10 min</u>	<u>&lt; 15 min</u>	<u>Used for events that is currently impacting service or ability to view network elements (LOV).</u>	<u>Outages are referred to Emergency Recovery immediately. Immediate and continuous effort and escalation until resolved or restored to pre-incident condition or work around is implemented. Resolved or referred to Tier II/III support group.</u>
2	<u>MAJOR (Non-Service Affecting)</u>	<u>&lt; 30 min</u>	<u>&lt; 60 min</u>	<u>&lt; 75 min</u>	<u>Used for in-service trouble conditions that does not affect service nor qualify as a loss of redundancy. Typically, these conditions if unresolved will not result in a Priority 1 event.</u>	<u>Resolved or referred to Tier II/III support group. Continuous effort until either a) service level is restored to pre-incident, b) acceptable workaround is implemented, or c) an action plan is instated that will meet MTTR requirements.</u>
3	<u>MINOR</u>	<u>&lt; 30 min</u>	<u>Monthly Summary</u>	<u>&lt; 12 hrs.</u>	<u>Used for non-service affecting conditions that if not resolved will not result in a Priority 1 or 2 events or issue.</u>	<u>Resolved or referred to Tier II/III support group</u>

- Phone call wait time: Answer calls by live person within 30 seconds (average) with a maximum wait time of 5 minutes. A direct line will be provided.
- Email response time: Acknowledge email requests by live person within 15 minutes
- The maximum amount of time between the occurrence of condition that requires crew dispatch and the crew dispatch phone call is made: < 60 minutes

## 6. PAY-PER-INCIDENT SERVICES & PRICING

Customer may purchase, subject to availability, one (1) or more Pay-Per-Incident Services for any Aviat Networks Product. A summary of the current pricing applicable to the Pay-Per-Incident Services is set forth further in this Section. The current pricing may be revised by Aviat Networks at any time. Pay-Per-Incident definitions, descriptions and pricing is listed and regularly updated in the Aviat Networks Global Network Service [Customer Support Guidelines](#) document located on our website, in the [Services » AviatCare » Support Services](#) section. The Customer will be invoiced for any Pay-Per-Incident Services promptly following Aviat Networks performance thereof.

PAY-PER-INCIDENT SERVICE	PRICING APPLICABLE TO IN-WARRANTY (PER UNIT)	PRICING APPLICABLE TO MAINTENANCE COVERED (PER UNIT)	PRICING APPLICABLE TO OUT-OF-WARRANTY (PER UNIT)
Repair	Free of charge	Free of charge	Fixed Repair price based on the current list price of the defective unit. Contact the local Aviat Networks Repair Center.
Advance Replacement <sup>1</sup>	Based on list price of the unit for standard Advanced Replacement requests, Expedited Advanced Replacement is an additional \$750/FRU	Subject to terms in the Agreement – Can be no additional charge	Fixed Replacement price. Contact the local Aviat Networks Repair Center.
No Fault Found	No Charge, as long as total NFF does not exceed 10% of returns	Free of charge providing quantity does not exceed ten percent (10%) of the total number of Returned Units received by Aviat Networks from Customer during each year of the Support Period.	Standard Unit Repair price. Contact the local Aviat Networks Repair Center.

## 7. AVIAT NETWORKS CONTACTS

Outlined below is the process to contact Aviat Networks once the Agreement is effect.

For Questions or concerns on the Agreement either before or after it is in effect, please contact:	
<p><b>NORTH AMERICA</b>  <b>Repairs, Returns &amp; Advance Replacements</b>                      Phone: 1--800-227-8332 (selecting Option 2, then 1)                       Direct number: 1-210-526-6345                       Fax: 1-210-526-6315                       E-mail: <a href="mailto:CustomerCare.Americas@aviatnet.com">CustomerCare.Americas@aviatnet.com</a>                       Online RMA Request:  <a href="https://aviatcloud.com/rma_tracking.asp">https://aviatcloud.com/rma_tracking.asp</a></p>	<p><b>NORTH AMERICA</b>  <b>Technical Assistance</b>                      Phone: 1-800-227-8332 (Option1, enter PIN, press 1 to confirm PIN, then Option 1 for TAC)                       Direct number: 1-210-526-6345                       Fax: 1-210-526-6315                       E-mail: <a href="mailto:TAC.AM@aviatnet.com">TAC.AM@aviatnet.com</a>                       Online Technical Assistance Request: <a href="http://www.aviatcloud.com">www.aviatcloud.com</a></p>
	NOC Program Manager:

<p><b>NORTH AMERICA</b></p> <p><b>Network Operations Center (NOC)</b></p> <p>Aviat NOC Contacts:  Email: <a href="mailto:noc.notifications@aviatnet.com">noc.notifications@aviatnet.com</a>  Phone: 877-662-7871 opt 1, 24x7</p>	<p>Kevin Baxter  Phone: 210-526-6352 Email: <a href="mailto:kevin.baxter@aviatnet.com">kevin.baxter@aviatnet.com</a></p> <p>NOC Escalation Contacts:  Sr. Manager  Ramon Morales  Phone: 210-526-6426  Email: <a href="mailto:ramon.morales@aviatnet.com">ramon.morales@aviatnet.com</a></p>
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## 8. ADDITIONAL TERMS AND CONDITIONS

This agreement is between the party purchasing services described herein (the “Customer”) and, for Customers located in the United States or outside of the United States, with Aviat U.S., Inc., a wholly owned subsidiary of Aviat Networks Inc., with offices at 860 N McCarthy Blvd, Suite 200, Milpitas, CA 95035 hereinafter referred to as “Aviat Networks”.

### 8.1 SCOPE OF SERVICES

Aviat Networks will furnish the services outlined in the [Service Level Support](#) Section of this Agreement hereinafter referred to as “Services” for the Products for Customer as may be required from time to time for the period specified in the [Duration of Support Period](#) Section providing receipt and acceptance of the Customer’s purchase order. The Services will be provided in conformity with the terms, conditions, specifications and other requirements of this Agreement and each request for Services will be governed by the terms and conditions stated herein.

The Customer must ensure that the Products to be included in this Agreement be in good operating condition prior to the commencement of this Agreement. Aviat Networks reserves the right to inspect any and all of the Products to be included in the Agreement prior to the commencement of the Agreement, and if the Product is found to be defective, the Customer shall be responsible for the cost of repair of the defective units.

An authorization to return Units to Aviat Networks under this Agreement must be obtained from an Aviat Networks representative prior to making shipment to the Aviat Networks’ Repair Center. Aviat Networks warrants that each Unit that is repaired or replaced under this Agreement, shall, at the time of return to Customer, for a period of ninety (90) days thereafter or until the expiration or termination of this Agreement, whichever is longer, be free from defects in materials and workmanship. Such warranty shall not include any consumable components to which a specific manufacturer’s guarantee applies. If any Unit shall prove to be defective in materials or workmanship under normal intended usage, operation and maintenance during the term of this Agreement, as determined by Aviat Networks after examination of the Unit claimed to be defective, then Aviat Networks shall repair or replace, at Aviat Networks’ sole option, such defective Unit, in accordance with procedures specified herein, at no additional cost, exclusive, however, of the cost of labor by the Customer’s own employees, agents or contractors in identifying, removing or replacing the defective part(s) of the Units.

Liability of Aviat Networks for breach of any and all warranties hereunder is expressly limited to the repair or replacement of defective Units as set forth in this Agreement, and in no event shall Aviat Networks be liable for special, incidental or consequential damages by reason of any breach of warranty or defect in materials or workmanship. Aviat Networks shall not be responsible for repair or replacement of Products which have been subjected to neglect, accident (including fire, flood, storm, lightning strike, or other act of God), Customer’s fault or negligence or improper use, or Products which have been altered by anyone other than Aviat Networks or an agent authorized by Aviat Networks or Products that are not repairable due to component availability.

Expedited Services such as Emergency Repair may be requested and will be executed based on inventory availability only. Expedited Services such as but not limited to Emergency Repair, etc. are not included in the Program and will be quoted at time of service request.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES WHETHER ORAL, WRITTEN, EXPRESSED, IMPLIED, OR STATUTORY. IN PARTICULAR, THE IMPLIED WARRANTIES OF FITNESS FOR PARTICULAR PURPOSE AND MERCHANTABILITY ARE HEREBY DISCLAIMED AND SHALL NOT BE APPLICABLE EITHER FROM AVIAT NETWORKS OR ANY OTHER EQUIPMENT MANUFACTURER. AVIAT NETWORKS’ WARRANTY OBLIGATIONS AND CUSTOMER’S REMEDIES THEREUNDER ARE SOLELY AND

EXCLUSIVELY AS STATED HEREIN. NOTWITHSTANDING ANY OTHER PROVISIONS OF THIS CONTRACT, UNDER NO CIRCUMSTANCES SHALL AVIAT NETWORKS BE LIABLE TO CUSTOMER OR ANY THIRD PARTY CLAIMING UNDER CUSTOMER FOR SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, OR LOSS OF CAPITAL, REVENUE OR PROFITS AS A RESULT OF A BREACH OF ANY PROVISION OF THIS CONTRACT. CUSTOMER HEREBY INDEMNIFIES AVIAT NETWORKS AGAINST ALL LOSS OR LIABILITY FROM CLAIMS BY CUSTOMER OR A THIRD PARTY ARISING OUT OF OR RELATING TO THE INSTALLATION, OPERATION, OR USE OF THE EQUIPMENT, WHETHER ON ACCOUNT OF NEGLIGENCE OR OTHERWISE. IN NO EVENT SHALL AVIAT NETWORKS' LIABILITY TO CUSTOMER, OR ANY PARTY CLAIMING THROUGH CUSTOMER EXCEED THE LESSER OF \$100,000.00 USD OR THE ACTUAL SALES PRICE PAID BY CUSTOMER FOR ANY ITEMS SUPPLIED HEREUNDER.

## 8.2 PRICES/PAYMENT/TAXES/SHIPPING

All payments shall be made via check to the accounts specified on the invoice, in full in Advance of the commencement of each year of service/coverage. The total amount is due and payable to Aviat Networks within thirty (30) days of the invoice date, subject to credit approval. In the event any payment due by Customer hereunder is past due, Aviat Networks reserves the right to withhold Services until such payment is received. Prices and payment terms for Services or Products not included in this Agreement, such as Emergency Repair, etc., will be established on a case-by-case basis subject to the mutual agreement of the parties.

All prices are exclusive of all sales, use, excise, and other taxes, duties or charges. Unless evidence of tax exempt status is provided by Customer, Customer shall pay, or upon receipt of invoice from Aviat Networks, shall reimburse Aviat Networks for all such taxes or charges levied or imposed on Customer, or required to be collected by Aviat Networks, resulting from this transaction or any part thereof.

All shipments made by Aviat Networks under this Agreement are made via the methods (as applicable) outlined in the [Repair Services](#) and/or [Advance Replacement](#) Sections or the [Repair Logistics Program](#) Section (if purchased) of this Agreement. Unless instructed otherwise, Aviat Networks will arrange for standard commercial shipping. In the event Customer requires other than standard commercial shipping, Customer will be responsible for any additional costs incurred. Responsibilities regarding the export of items delivered under this Agreement are detailed in the [Export and Re-Export Restrictions](#) and [Export Documents](#) Sections below.

Late payments shall result in the assessment of a late charge equal to one and one-half percent (1 ½%) per month on any outstanding balance, or the maximum amount of interest chargeable by law, whichever is less.

## 8.3 EXPORT AND RE-EXPORT RESTRICTIONS

Performance and delivery of the equipment, documents, Services and Software sold or delivered hereunder are subject to export control laws and regulations of the United States, as applicable, and conditioned upon receipt of required U.S. Government licenses and approvals by Aviat Networks. Customers shall not export or re-export Products or technical data delivered hereunder from the United States without complying with regulations of the Bureau of Export Administration of the United States Department of Commerce, as applicable. Customers shall not re-export the Products and technical data delivered hereunder from the country of delivery or to any facility engaged in the design, development, stockpiling, manufacturing or use of missile, chemical or biological weapons without fully complying with the regulations of the above United States government agencies. Customer warrants that it will comply with the United States Foreign Corrupt Practices act of 1997, as amended. Customer shall defend, indemnify and hold Aviat Networks harmless from and against any loss, damage, or liability arising out of Customer's failure to comply with this Section.

## 8.4 EXPORT DOCUMENTS

Customer shipments, under this Agreement, to Aviat Networks shall be made via the methods (as applicable) outlined in the [Repair Services](#) and/or [Advance Replacement](#) Sections or the [Repair Logistics Program](#) Section (if purchased) of this Agreement. Customer shall be responsible for insurance and for clearing incoming Products through customs in their country.

Customers shall be responsible for obtaining any necessary import licenses into the country of delivery. Aviat Networks shall provide certificates of delivery, affidavits of origin, and other information under its control which is necessary for Customer to import Products.

Customers shall provide all information, certificates and Letters of Assurance necessary for Aviat Networks to obtain any export licenses required for Aviat Networks to export Products out of the country for repair, as applicable. Aviat Networks shall be responsible for selection and/or approval of freight forwarder(s). In the event that Customer wishes to utilize a freight forwarder that is not acceptable to Aviat Networks, Customer shall be the shipper of record and shall be responsible for obtaining required export licenses which shall be in the name of the Customer.

#### 8.5 EXCUSABLE DELAY

Aviat Networks shall be excused from performance under this Agreement and not be liable to Customer for delay in performance attributable in whole or in part to any cause beyond its reasonable control, including but not limited to, actions or inactions of government whether in its sovereign or contractual capacity, judicial action, war, civil disturbance, insurrection, sabotage, act of a public enemy, labor difficulties or disputes, failure or delay in delivery by Aviat Networks' suppliers or subcontractors, transportation difficulties, shortage of energy, materials, labor or equipment, accident, fire, flood, storm or other act of God, or Customer's fault or negligence.

In the event of an excusable delay, Aviat Networks shall make reasonable efforts to notify Customer of the nature and extent of such a delay and Aviat Networks (i) will be entitled to a schedule extension on at least a day-for-day basis, (ii) in the event of Customer's fault or negligence, will be also entitled to an equitable adjustment in the price of this contract.

#### 8.6 TERMINATION

Either party may terminate this Agreement upon ninety (90) days written notice without cause. In such event, Aviat Networks shall refund to Customer a pro-rated amount of the annual fee paid based on the complete months remaining in the term. In the event Customer terminates the Agreement without cause earlier than the ninth (9th) month of each year of the Agreement, Aviat Networks reserves the right to retain the pro-rated amount of the annual fee through the month of termination or the actual cost incurred by Aviat Networks hereunder, whichever is greater.

Either party may terminate this Agreement immediately upon notice in writing to the other party if the other party shall breach any provision of this Agreement in any respect and such breach remains un-remedied thirty (30) days after notice thereof from the non-breaching party. In the event this Agreement is terminated due to the breach of Customer, Aviat Networks shall retain the entire amount of the annual fee paid by Customer.

The right of termination provided herein is absolute and neither party shall be liable to the other for damages or otherwise by reason of such termination.

#### 8.7 ASSIGNMENT

Customer may not assign this Agreement in whole or in part without the prior written consent signed by an officer of Aviat Networks. Such consent shall not be unreasonably withheld.

#### 8.8 GOVERNING LAW, VENUE AND JURISDICTION

This Agreement will be governed by and construed in accordance with the laws of the **State of California**. The parties agree that any action to enforce any provision of this Agreement or arising out of or based upon this Agreement or the business relationship between Aviat Networks and Customer will be brought in a **local or Federal court** of competent jurisdiction in **East Bay Regional Communications System Authority (EBRCSA), California**.

#### 8.9 ENFORCEABILITY

If any provision of this Agreement shall be held to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall in no way be affected or impaired.

#### 8.10 LIMITATION OF LIABILITY

NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY OR ANY THIRD PARTY CLAIMING UNDER THE OTHER PARTY FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, AND CONSEQUENTIAL OR LOSS OF

PROFIT TYPES OF DAMAGES AS A RESULT OF A BREACH OF ANY PROVISION OF THIS CONTRACT. CUSTOMER SHALL INDEMNIFY AVIAT NETWORKS AGAINST ALL LOSS OR LIABILITY FROM CLAIMS BY CUSTOMER OR A THIRD PARTY ARISING OUT OF OR RELATING TO CUSTOMER'S INSTALLATION, OPERATION, OR USE OF THE SERVICES OR PRODUCTS PROVIDED HEREUNDER, WHETHER ON ACCOUNT OF NEGLIGENCE OR OTHERWISE.

8.11 COMPLIANCE WITH LAW

Customer agrees to assist Aviat Networks to comply with any applicable conventions, laws, rules, regulations, and bylaws incident to its activities under this Agreement, including, without limitation, United States export control regulations, the United States Foreign Corrupt Practices Act, and the United States anti-boycott regulations. Customer will promptly deliver to Aviat Networks a copy of any notice or instrument alleging a violation of any of these laws.

8.12 ENTIRE AGREEMENT

This Agreement supersedes all previous communications, transactions, and understandings, whether oral, or written, and constitutes the sole and entire agreement between the parties pertaining to the subject matter hereof. No modification or deletion of, or addition to these terms shall be binding on either party unless made in writing and signed by a duly authorized representative of both parties.

## 9. SIGNATURES

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in their respective names.

**AVIAT U.S., Inc.**

**East Bay Regional Communications System Authority (EBRCSA)**

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

Attachment 1: preventive maintenance checklist



Checklist.xlsx

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**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**BUDGET**

**FISCAL YEAR 2021-22**

**SCENARIO #1: PAY CAPITAL PROJECT COSTS UPFRONT**

**Revenues**

Operating payments	\$ 6,840,000
Service payments	1,260,000
Interest	100,000
<b>Total revenues</b>	<b><u>8,200,000</u></b>

**Expenses**

Administration	452,000
Audit fees	20,000
Contingency	100,000
Insurance	44,000
Lease	71,000
Legal	20,000
Licenses and permits	30,000
Membership fees	10,000
Maintenance	3,597,000
Security	15,000
Utilities	210,000
Website hosting	4,000
<b>Total operating expenses</b>	<b><u>4,573,000</u></b>
Capital	4,522,000
Debt Service	650,000
<b>Total expenses</b>	<b><u>9,745,000</u></b>
<b>Change in reserve balance</b>	<b><u>\$ (1,545,000)</u></b>

Assumption: Operating payments 19,000 radio count at \$30 per month per radio  
Service payments 7,000 radio count at \$15 per month per radio

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM  
EXPENDITURE DETAIL  
FISCAL YEAR 2021-2022  
SCENARIO #1: PAY CAPITAL PROJECT COSTS UPFRONT**

<b>OPERATING EXPENSES</b>	<b>FY21-22 Approved</b>	<b>FY21-22 Amendment #1</b>	<b>FY21-22 Amended</b>
Administration			
Executive director	\$ 263,000	\$ -	\$ 263,000
Administrative assistant	40,000	-	40,000
Planning	134,000	-	134,000
Travel	5,000	-	5,000
Miscellaneous	10,000	-	10,000
Audit fees	20,000	-	20,000
Contingency	100,000	-	100,000
Insurance	44,000	-	44,000
Lease	71,000	-	71,000
Legal	20,000	-	20,000
Licenses and permits	30,000	-	30,000
Membership fees	10,000	-	10,000
Maintenance			
Service agreement	1,095,000	-	1,095,000
Software maintenance (SUA II)	977,000	-	977,000
Network administration	267,000	-	267,000
HVAC maintenance	25,000	-	25,000
Generator maintenance	53,000	-	53,000
ALCO general maintenance	600,000	-	600,000
COCO general maintenance	265,000	-	265,000
CSI telecommunications	200,000	-	200,000
Microwave maintenance	250,000	(150,000)	100,000
Miscellaneous	15,000	-	15,000
Security	15,000	-	15,000
Utilities	210,000	-	210,000
Website hosting	4,000	-	4,000
<b>Total expenses</b>	<b>4,723,000</b>	<b>(150,000)</b>	<b>4,573,000</b>
<b>CAPITAL EXPENDITURES</b>			
Microwave Network Upgrade	-	962,000	962,000
Encryption Upgrade	-	1,621,000	1,621,000
TDMA Upgrade	1,664,000	-	1,664,000
DC Power Upgrade	250,000	-	250,000
Dispatch Consoles	25,000	-	25,000
<b>Total expenditures</b>	<b>1,939,000</b>	<b>2,583,000</b>	<b>4,522,000</b>
<b>DEBT SERVICE</b>			
Principal	512,000	-	512,000
Interest	138,000	-	138,000
<b>Total expenses</b>	<b>\$ 650,000</b>	<b>\$ 2,433,000</b>	<b>\$ 650,000</b>

1. Motorola service agreement increased due to a new 4 year contract
2. Network administration contract increased
3. TDMA Upgrade Expense is the annual payment for the Change Order approved by the Board of Directors
4. DC Power Upgrade Expense is an annual amount to replace the batteries in various locations

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM  
PROJECTED CASH RESERVE BALANCES  
FISCAL YEAR 2021-2022  
SCENARIO #1: PAY CAPITAL PROJECT COSTS UPFRONT**

	FY20-21 Final Budget	FY20-21 Audited	FY21-22 Budget
<b>Operating Reserve</b>			
Beginning Balance	\$ 2,012,311	\$ 2,012,311	\$ 2,054,302
Operating Payments	6,450,000	6,392,348	6,840,000
Initial Payments	-	48,200	-
Interest	188,000	111,474	100,000
Operating Expenses	(4,544,000)	(4,108,604)	(4,573,000)
Transfer to Capital Reserve	(1,834,311)	(2,401,427)	(2,134,802)
<b>Ending Balance</b>	<b>2,272,000</b>	<b>2,054,302</b>	<b>2,286,500</b>
<b>Debt Service Reserve</b>			
Beginning Balance	1,000,000	1,000,000	1,000,000
Service Payments	1,232,000	1,244,766	1,260,000
Debt Service	(650,000)	(647,804)	(650,000)
Transfer to Capital Reserve	(582,000)	(596,962)	(610,000)
<b>Ending Balance</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>
<b>Capital Reserve</b>			
Beginning Balance	8,588,224	8,588,224	9,923,583
Transfer In	2,416,311	2,998,389	2,744,802
Capital	(2,066,000)	(1,663,030)	(4,522,000)
<b>Ending Balance</b>	<b>8,938,535</b>	<b>9,923,583</b>	<b>8,146,385</b>
<b>Total Reserve Balance</b>	<b>\$ 12,210,535</b>	<b>\$ 12,977,885</b>	<b>\$ 11,432,885</b>

1. Operating Reserve Balance is equal to 50% of the next fiscal years Operating Budget
2. Debt Reserve Balance is set to equal \$1,000,000 every fiscal year
3. Capital Reserve Balance is the projected remaining cash after the Operating and Debt Reserve requirements have been met

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

**10 YEAR CASH FLOW PROJECTION**

**SCENARIO #1: PAY CAPITAL PROJECT COSTS UPFRONT**

	FY 2020-21 Audited	FY 2021-22 Budget	FY 2022-23 Forecast	FY 2023-24 Forecast	FY 2024-25 Forecast	FY 2025-26 Forecast	FY 2026-27 Forecast	FY 2027-28 Forecast	FY 2028-29 Forecast	FY 2029-30 Forecast	FY2030-31 Forecast
<b>Operating Reserve</b>											
Balance - beginning	\$ 2,012,311	\$ 2,054,302	\$ 2,286,500	\$ 2,266,160	\$ 2,323,696	\$ 2,384,652	\$ 2,456,192	\$ 2,538,378	\$ 2,605,774	\$ 2,683,946	\$ 2,772,965
Receipts from members	6,552,022	6,940,000	6,567,400	6,567,400	6,567,400	6,567,400	6,567,400	6,567,400	6,567,400	6,567,400	6,567,400
Payments to suppliers	(4,108,604)	(4,573,000)	(4,532,320)	(4,647,392)	(4,769,304)	(4,912,383)	(5,076,755)	(5,211,547)	(5,367,892)	(5,545,930)	(5,694,797)
Transfer to Capital Reserve	(2,401,427)	(2,134,802)	(2,055,420)	(1,862,472)	(1,737,140)	(1,583,478)	(1,408,459)	(1,288,457)	(1,121,336)	(932,451)	(798,170)
<b>Balance - ending</b>	<b>2,054,302</b>	<b>2,286,500</b>	<b>2,266,160</b>	<b>2,323,696</b>	<b>2,384,652</b>	<b>2,456,192</b>	<b>2,538,378</b>	<b>2,605,774</b>	<b>2,683,946</b>	<b>2,772,965</b>	<b>2,847,399</b>

**Debt Service Reserve**

Balance - beginning	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	-	-	-
Service payment	1,244,766	1,260,000	1,222,248	1,222,248	1,222,248	1,222,248	1,222,248	1,222,248	-	-	-
Principal	(492,000)	(512,000)	(532,000)	(553,000)	(576,000)	(600,000)	(623,000)	-	-	-	-
Bond interest	(155,804)	(138,000)	(118,000)	(97,000)	(74,000)	(50,000)	(27,000)	-	-	-	-
Transfer to Capital Reserve	(596,962)	(610,000)	(572,248)	(572,248)	(572,248)	(572,248)	(572,248)	(2,222,248)	-	-	-
<b>Balance - ending</b>	<b>1,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>						

**Capital Reserve**

Balance - beginning	8,588,224	9,923,583	8,146,385	8,861,023	9,382,713	9,779,071	10,021,767	10,089,444	11,687,119	10,895,424	11,577,875
Grants	-	-	-	-	-	-	-	-	-	-	-
Transfer In	2,998,389	2,744,802	2,627,668	2,434,720	2,309,388	2,155,726	1,980,707	3,510,705	1,121,336	932,451	798,170
Capital	(1,663,030)	(4,522,000)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(1,913,030)	(250,000)	(250,000)
<b>Balance - ending</b>	<b>9,923,583</b>	<b>8,146,385</b>	<b>8,861,023</b>	<b>9,382,713</b>	<b>9,779,071</b>	<b>10,021,767</b>	<b>10,089,444</b>	<b>11,687,119</b>	<b>10,895,424</b>	<b>11,577,875</b>	<b>12,126,045</b>

<b>TOTAL RESERVE BALANCE</b>	<b>\$ 12,977,885</b>	<b>\$ 11,432,885</b>	<b>\$ 12,127,183</b>	<b>\$ 12,706,409</b>	<b>\$ 13,163,723</b>	<b>\$ 13,477,958</b>	<b>\$ 13,627,821</b>	<b>\$ 14,292,892</b>	<b>\$ 13,579,370</b>	<b>\$ 14,350,840</b>	<b>\$ 14,973,443</b>
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**SUPPLEMENTARY SCHEDULE FOR PAYMENTS TO SUPPLIERS**

Administration	\$ (262,403)	\$ (452,000)	\$ (327,540)	\$ (337,366)	\$ (347,487)	\$ (357,912)	\$ (368,649)	\$ (379,708)	\$ (391,099)	\$ (402,832)	\$ (414,917)
Audit fees	(17,160)	(20,000)	(20,600)	(21,218)	(21,855)	(22,511)	(23,186)	(23,882)	(24,598)	(25,336)	(26,096)
Contingency	-	(100,000)	(103,000)	(106,090)	(109,273)	(112,551)	(115,928)	(119,406)	(122,988)	(126,678)	(130,478)
Insurance	(35,049)	(44,000)	(45,320)	(46,680)	(48,080)	(49,522)	(51,008)	(52,538)	(54,114)	(55,737)	(57,409)
Lease	(65,231)	(71,000)	(73,130)	(75,324)	(77,584)	(79,912)	(82,309)	(84,778)	(87,321)	(89,941)	(92,639)
Legal	(10,235)	(20,000)	(20,600)	(21,218)	(21,855)	(22,511)	(23,186)	(23,882)	(24,598)	(25,336)	(26,096)
Licenses and permits	(3,115)	(30,000)	(30,900)	(31,827)	(32,782)	(33,765)	(34,778)	(35,821)	(36,896)	(38,003)	(39,143)
Membership fees	(8,867)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Maintenance											
Customer svc. agmt.	(1,077,595)	(1,095,000)	(1,088,000)	(1,099,000)	(1,131,970)	(1,165,929)	(1,200,907)	(1,236,934)	(1,274,042)	(1,312,263)	(1,351,631)
SUA II	(966,384)	(977,000)	(1,006,310)	(1,036,499)	(1,067,594)	(1,099,622)	(1,132,611)	(1,166,589)	(1,201,587)	(1,237,635)	(1,274,764)
System management	(261,415)	(267,000)	(275,010)	(267,000)	(275,010)	(283,260)	(291,758)	(300,511)	(309,526)	(318,812)	(328,376)
HVAC	(27,141)	(25,000)	(25,750)	(26,523)	(27,319)	(28,139)	(28,983)	(29,852)	(30,748)	(31,670)	(32,620)
Generators	(52,250)	(53,000)	(54,590)	(57,195)	(59,652)	(62,155)	(64,708)	(67,318)	(70,000)	(72,750)	(75,570)
ALCO maintenance	(600,000)	(600,000)	(618,000)	(636,540)	(655,636)	(675,305)	(695,564)	(716,431)	(737,924)	(760,062)	(782,864)
COCO maintenance	(238,772)	(265,000)	(272,950)	(281,139)	(289,573)	(298,260)	(307,208)	(316,424)	(325,917)	(335,695)	(345,766)
CSI telecommunications	(34,320)	(200,000)	(206,000)	(212,180)	(218,545)	(225,101)	(231,854)	(238,810)	(245,974)	(253,353)	(260,954)
Microwave maintenance	(240,109)	(100,000)	(103,000)	(106,090)	(109,273)	(112,551)	(115,928)	(119,406)	(122,988)	(126,678)	(130,478)
Miscellaneous	(16,340)	(15,000)	(15,450)	(15,914)	(16,391)	(16,883)	(17,389)	(17,911)	(18,448)	(19,001)	(19,571)
Security	(11,199)	(15,000)	(15,450)	(15,914)	(16,391)	(16,883)	(17,389)	(17,911)	(18,448)	(19,001)	(19,571)
Utilities	(177,618)	(210,000)	(216,300)	(222,789)	(229,473)	(236,357)	(243,448)	(250,751)	(258,274)	(266,022)	(274,003)
Web site hosting	(3,400)	(4,000)	(4,120)	(4,244)	(4,371)	(4,502)	(4,637)	(4,776)	(4,919)	(5,067)	(5,219)
Payments to suppliers	<b>\$ (4,108,604)</b>	<b>\$ (4,573,000)</b>	<b>\$ (4,532,320)</b>	<b>\$ (4,647,392)</b>	<b>\$ (4,769,304)</b>	<b>\$ (4,912,383)</b>	<b>\$ (5,076,755)</b>	<b>\$ (5,211,547)</b>	<b>\$ (5,367,892)</b>	<b>\$ (5,545,930)</b>	<b>\$ (5,694,797)</b>

**RESOLUTION NO. 21-\_\_\_**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

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**AUTHORIZING THE EBRCSA CHAIR TO EXECUTE, AND THE EXECUTIVE  
DIRECTOR TO IMPLEMENT, AN AGREEMENT WITH AVIAT NETWORKS FOR  
MAINTENANCE , REPAIR AND TECHNICAL SUPPORT SERVICES FOR THE  
MICROWAVE SYSTEM**

**WHEREAS**, the East Bay Regional Communications System Authority (“EBRCSA”) P-25 compliant communications system serving Alameda and Contra Costa Counties and individual political jurisdictions therein (the “System”) microwave network has been serviced by Aviat Networks pursuant to an agreement that expired on September 30, 2021; and

**WHEREAS**, Aviat Network is willing to enter into a new Agreement for a one-year term, at an annual cost of \$95,851.00 which includes repair services, replacement during repair, and remote technical support; and

**WHEREAS**, EBRCSA staff and technicians have been satisfied with the services provided by Aviat Network under the prior agreement, and the Operations Committee and Finance Committee have recommended that the proposed contract be approved by the Board of Directors; and

**WHEREAS**, funds for the Agreement are available in the FY 21/22 Operations Budget, but adoption of a budget adjustment is recommended for approval.

**NOW, THEREFORE, BE IT RESOLVED THAT**, good cause appearing therefor, the Chair of the East Bay Regional Communications System Authority is authorized to execute, and the Executive Director is authorized to take such other and further action as necessary to implement, a services agreement with Aviat Networks in form approved by EBRCSA General Counsel, and in an amount not to exceed \$95,851.00 annually.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 3<sup>rd</sup> day of December 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:** \_\_\_\_\_  
Caroline Soto, Secretary

5019944.1

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**RESOLUTION NO. 21-XX**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

**\*\*\*\*\***

**RESOLUTION ADOPTING AND IMPLEMENTING AN ADJUSTMENT TO  
ADMINISTRATIVE BUDGET FOR FISCAL YEAR 2021/2022**

**WHEREAS**, on May 7, 2021, the East Bay Communications System Authority (“EBRCSA”) Board of Directors adopted the Fiscal Year 2020/2021 Administrative Budget for the EBRCSA; and

**WHEREAS**, the EBRCSA Finance Committee and Operations Committee have identified a change in the Contract with Aviat Care requiring a change in line item in the budget for a reduction in the existing budgeted amount for Aviat Microwave and have recommended that the EBRCSA Board of Directors so adjust the Fiscal Year 2021/2022 Administrative Budget; and

**WHEREAS**, the EBRCSA Board of Directors Finance Committee has identified a decrease to the FY 2021/2022 budget; and

**WHEREAS**, the EBRCSA Board of Directors has reviewed and considered the proposed budget adjustment, has reviewed EBRCSA’s current revenues and expenses, has heard all comment thereon, and finds good cause therefor.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Board of Directors of the East Bay Regional Communications System Authority does hereby adopt a budget reduction to the Fiscal Year 2021/2022 Administrative Budget, Operating Expenses, for the EBRCSA, by decreasing the funding for Aviat Care, and authorizes the Executive Director to implement such change to the Fiscal Year 2021/2022 Administrative Budget.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 6th day of December 3, 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

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Board Chair

**ATTEST:** \_\_\_\_\_

Caroline Soto, Secretary



## **East Bay Regional Communications System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

### **AGENDA ITEM NO. 9.4.**

#### **AGENDA STATEMENT BOARD OF DIRECTORS MEETING MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Sheriff G. Ahern, Board Chair  
East Bay Regional Communications System Authority

**SUBJECT:** Adopt a Resolution Authorizing a Change Order to the Communications System Agreement with Motorola Solutions, Inc. for Purchase of AES 256 Encryption for MCC 7500 Consoles

#### **RECOMMENDATIONS:**

1. Adopt a resolution authorizing a Change Order to the Communications System Agreement with Motorola Solutions, Inc. for purchase of AES 256 Encryption (“Encryption”) for MCC 7500 Consoles (“Consoles”).
2. Adopt a resolution adopting and implementing a budget adjustment to the EBRCSA FY21/22 budget to reflect the increase in cost of this purchase.

#### **SUMMARY/DISCUSSION:**

On October 12, 2020, the California Department of Justice Information Services Division issued Bulletin No. 20-09-CJIS, regarding confidentiality of information from the California Law Enforcement Telecommunications System (CLETS). The bulletin states:

*Law enforcement and criminal justice agencies authorized by the California Department of Justice (CA DOJ) to access the CLETS must adhere to the requirements detailed in the CLETS Policies Practices and Procedures (PPP) and in the Federal Bureau of Investigation (FBI) Criminal Justice Information Services (CJIS) Security Policy to ensure the confidentiality and integrity of the data therein. More specifically, and as details further below, access to certain Criminal Justice Information (CJI) and Personally Identifiable information (PII) must be limited to authorized personnel; and the transmission of such information must be encrypted. Although generally applicable, the information in this bulletin*

*is particularly relevant to the radio transmission of protected data. (See attached bulletin 20-09-CJIS).*

The bulletin applies to all Law Enforcement in California. Encryption has been in Law Enforcement Agencies Special Response Unit radios and used for many years. The reason that encryption must be added to all Law Enforcement Radios is that CA DOJ changed its policy to include the word “HEAR” when confidential CJIS and PII information is being transmitted over the Law Enforcement Radios. Cellular telephones that have the ability to download applications, may download scanner applications which allow monitoring of Law Enforcement Radio Transmissions, thus allowing CJIS and PII information to be heard by individuals who do not qualify as authorized personnel.

EBRCSA member agencies do not currently comply as outlined in the Information Bulletin, FBI CJIS Security Policy, version 6/10/19, sections 5.10.1.2, 5.10.1.2.1 and 5.13.1. Sheriffs and Police Chiefs in Alameda and Contra Costa Counties have determined encryption is required in order to reach compliance with CA DOJ Bulletin 20-09-CJIS in their respective jurisdictions, their respective jurisdictions have authorized purchase of Encryption from radios’ manufacturers and they have provided responses to the CA DOJ stating that compliance with CA DOJ Bulletin 20-09 will be achieved by June 2023.

EBRCSA owns the Consoles used by all Members and maintains them through the Service Update Agreement II with Motorola which requires updates to the technology every two years.

The Consoles are currently not equipped to enable communication with Members’ encrypted radios. It is estimated that approximately 14,000 EBRCSA radios and 182 Consoles require Encryption.

The maintenance and repairs of the Consoles is performed by the Alameda and Contra Costa County Radio Shops. Motorola provided a quote of \$1,620,183 for the Encryption to all Consoles and the EBRCSA Master Site.

Included in the Motorola quote which is summarized below is the cost of two KMF Servers which are necessary if the Encryption key is compromised and must be changed in every radio. The initial installation of the Encryption requires each Console and radio be physically touched. The KMF Servers will allow any future encryption changes to be performed over the network and not require each radio be touched. The installation in the Master Site is proposed to be completed by Motorola and in the radios by the Alameda and Contra Costa County Radio Shops. It is estimated that the cost for the EBRCSA Members to upgrade their radios will be approximately \$11,000,000. which is the responsibility of the member agency.

**FINANCIAL IMPACT:**

The proposed Change Order cost encryption can be covered by existing Operating Funds. However, it is recommended that the Board approve a resolution adopting a budget adjustment to reflect the purchase of encryption. The purchase of encryption will not require an increase in user fees for EBRCSA members.

# PRICING SUMMARY

Motorola is pleased to provide the following equipment and services to East Bay Regional Communications System Authority:

Description	Quantity	Extended Discounted Price
MCC7500 Secure Operation Licenses	182	\$567,840
MCC7500 AES Licenses	182	\$131,440
MCC7500 OTEK Licenses	182	\$585,312
Redundant KMF with AES	1	\$224,092
APX NEXT Features: SmartConnect, ViQi, SmartMessage, SmartLocate and 10 User Licenses	10	\$221,645
<b>Customer Loyalty Discount</b>		<b>-\$221,645</b>
<b>Equipment SUBTOTAL:</b>		<b>\$1,508,684</b>
System Integration Services (KMF and Console upgrades)		\$354,231
System Integration Services (APX Next Features)		\$318,026
<b>Customer Loyalty Discount</b>		<b>-\$318,026</b>
<b>System Integration SUBTOTAL:</b>		<b>\$354,231</b>
<b>Additional System Discount</b>		<b>-\$366,915</b>
10.25% Estimated Sales Tax on Equipment		\$124,183
<b>Total:</b>		<b>\$1,620,183</b>

## COMMITTEE RECOMMENDATION:

The Operations and Finance Committees have recommended that the Board approve the proposed purchase of the encryption.

## RECOMMENDED ACTION:

It is recommended that the Board of Directors adopt a Resolution authorizing a change order with Motorola Solutions, Inc. for purchase of AES 256 Encryption for MCC 7500 Consoles as set forth in Attachment A.

It is further recommended that the Board of Directors adopt a resolution adopting and implementing a budget adjustment to the EBRCSA FY21/22 budget to reflect the increase in cost of this service as set forth in Attachment B.

Attachments:

- Exhibit "A" - Motorola AES Encryption Quote October 11, 2021
- Exhibit "B" - California Department of Justice Bulletin 20-09-CJIS
- Exhibit "C" - EBRCSA 2021/2022 Budget

Exhibit “D” - Resolution Approving Purchase of Encryption for EBRCSA owned Dispatch  
Consoles

Exhibit “E” - Resolution Adopting and Implementing Adjustment to FY 2021/2022 Administrative  
Budget

5019962.1



# EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY

AES ENCRYPTION

OCTOBER 11, 2021

The design, technical, pricing, and other information ("Information") furnished with this submission is proprietary and/or trade secret information of Motorola Solutions, Inc. ("Motorola Solutions") and is submitted with the restriction that it is to be used for evaluation purposes only. To the fullest extent allowed by applicable law, the Information is not to be disclosed publicly or in any manner to anyone other than those required to evaluate the Information without the express written permission of Motorola Solutions.

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October 11, 2021

Mr. Tom McCarthy  
East Bay Regional Communications System Authority  
4985 Broder Blvd.  
Dublin, CA 94568

Subject: AES Encryption and APX NEXT Features

Dear Mr. McCarthy,

Motorola Solutions, Inc. ("Motorola Solutions") is pleased to have the opportunity to provide East Bay Regional Communications System Authority with quality communications equipment and services. The Motorola Solutions project team has taken great care to propose a solution that addresses your needs and provides exceptional value.

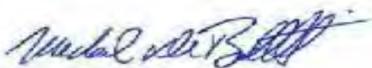
Our solution includes a combination of hardware, software, and services. Specifically, this solution is for the upgrade of the existing consoles to AES encryption and a proof of concept APX feature enablement at the core with a 1-year trial and includes:

- 182 AES Encryption, Secure Operation, and Over-the-Ethernet Key Management licenses for existing MCC 7500 consoles and Archiving Interface Servers (AIS)
- Three (3) AES Encryption upgrades for existing Key Variable Loaders (KVL 4000)
- Two (2) Key Management Facility servers
- One (1) Internetworking Firewall for APX NEXT Features
- One (1) server to enable APX NEXT applications
- One (1) server to enable APX NEXT application transcoding

As previously exercised, under Section 3.4 of the Communications System Agreement (CSA), dated July 7, 2009, and extended to July 6, 2023, between EBRCSA and Motorola Solutions (the "CSA"), EBRCSA may purchase additional goods and services from the CSA. Motorola Solutions' proposal is based on the assumption that EBRCSA will use this right under Section 3.4 of the CSA for the proposed transaction, together with the terms and conditions enclosed herein. EBRCSA may accept the proposal by issuing a Purchase Order that refers to the CSA and this proposal, which shall remain valid for a period of 120 days from the date of this cover letter. Alternatively, Motorola Solutions would be pleased to address any concerns Customer may have regarding the proposal. Any questions can be directed to your Motorola Account Executive, Gordon Poole, our Area Sales Manager, at (408) 306-5622.

We thank you for the opportunity to furnish the East Bay Regional Communications System Authority with "best in class" solutions and we hope to strengthen our relationship by implementing this project. Our goal is to provide you with the best products and services available in the communications industry.

Sincerely,



Michael De Benedetti  
**MSSSI Vice President**  
Motorola Solutions, Inc.



SECTION 1

# SYSTEM DESCRIPTION

## 1.1 INTRODUCTION

Motorola Solutions, Inc. (“Motorola”) is providing East Bay Regional Communications System Authority (EBRCSA) with a solution to satisfy the requirements of the California DOJ Information Bulletin of October 12, 2020 regarding encrypting radio transmissions of protected data. This proposal provides the enablement of AES encryption on the EBRCSA system, the existing ASTRO 25 MCC 7500 consoles, and the Archiving Interface Servers (AIS). This proposal also includes the master site core enablement for the demonstration of APX NEXT applications such as SmartConnect, ViQi, Smart Messaging, and Smart Locate with a one (1) year trial subscription.

Encrypted radio transmissions will be prevented from being monitored by unauthorized parties with end-to-end AES encryption with current Project 25 algorithms and are fully compliant with all Federal Information Processing Standards (FIPS).

Once the equipment included in this proposal is deployed, the MCC 7500 dispatch consoles will be capable of end-to-end encryption from the operator position to the ASTRO 25 network, so that at no point will EBRCSA’s communications be undermined by unencrypted transmissions. Each dispatch operator will be able to fully participate in secure communications while being confident that sensitive, vital information will not be heard by unauthorized individuals.

Motorola has included in this proposal a host of application services that enable the EBRCSA core equipment for APX NEXT device’s capabilities in the following ways:

- Quick access to immediate, actionable intelligence via intuitive voice control and ViQi—a virtual partner that can run tags and provide detailed information through voice.
- Better coverage through automatic switching between LMR and broadband connectivity via SmartConnect.
- Accurate location data over a broadband network for more informed decision making via SmartLocate.
- Seamless and discrete multimedia communications over a broadband connection via SmartMessaging.

Ten (10) Wave PTX mobile client licenses, one (1) Web-based Wave PTX Safeguard Multi-Role Dispatch client license, and one (1) Web-based Command Central Aware Standard client license are included in the proposed core enablement with a one (1) year trial subscription for the purposes of trial and proof of concept. APX NEXT radio subscribers and CAD/Mapping/Video integration referenced in feature descriptions are not included in this proposal.

The solution proposed to EBRCSA includes upgrades to the following existing equipment:

- 182 AES Encryption, Secure Operation, and Over-the-Ethernet Key Management (OTEK) licenses for a total of 182 existing MCC 7500 consoles and Archiving Interface Servers (AIS)
- Three (3) AES Encryption upgrades for existing Key Variable Loaders (KVL 4000)

Motorola will be providing the following new equipment:

- Two (2) Key Management Facility (Primary and Secondary KMF) servers to enable fleet wide, coordinated changing of AES encryption keys (OTAR/OTEK)
- Internetworking Firewall for APX NEXT cloud connection
- One (1) server to enable APX NEXT applications
- One (1) server to enable APX NEXT application transcoding

### 1.1.1 Secure Communications at the Console

The MCC7500 console itself encrypts and decrypts radio voice messages. Thus, radio voice messages are encrypted end-to-end, from the field radio user to the dispatch console. The console operator can choose whether or not to encrypt their transmissions on a particular trunked resource. Console operators can interface with agencies that have different encryption configurations without any manual intervention or delay. The MCC 7500 Console can support up to 60 calls simultaneously, using up to four different algorithms and multiple encryption keys. A diagram is shown below in Figure 1-1.

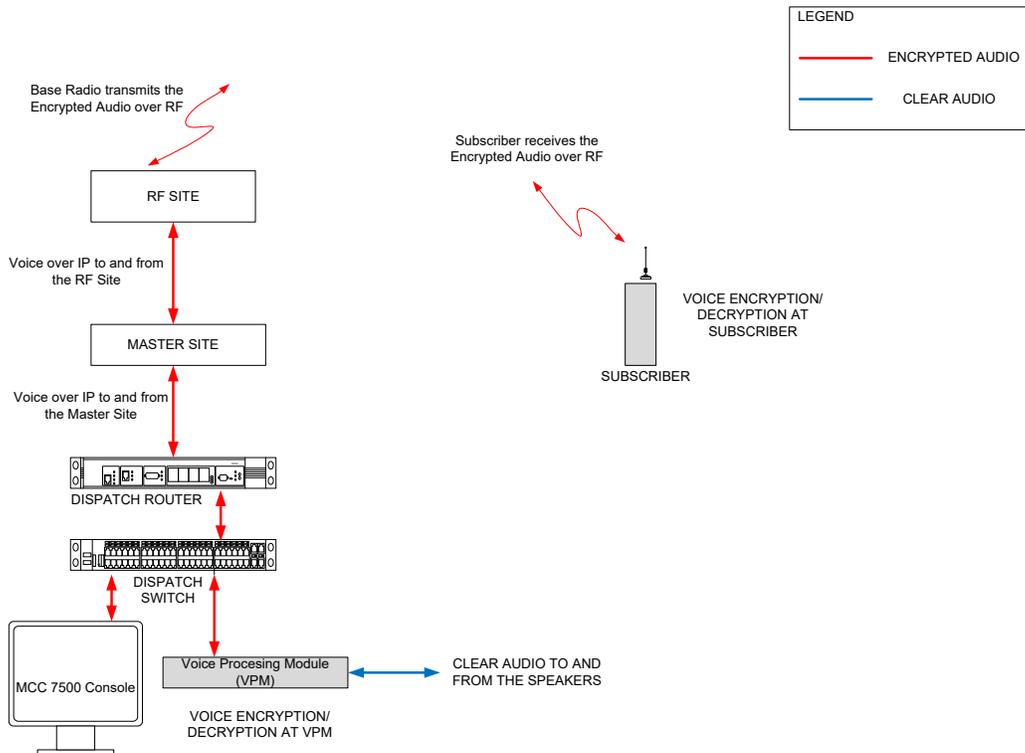


Figure 1-1 : Encrypted Voice Path between console to subscriber unit

To help reduce potential errors when managing encrypted communications, the MCC 7500 interface provides alerts when the console mode does not match that of a received call, and when a patch or multi-select group is being set up between a mix of clear and secure channels.

Currently, the majority of the EBRCSA MCC 7500 dispatch consoles have no encryption capabilities.

## 1.1.2 Over-the-Ethernet Key Management (OTEK)

The Over-the-Ethernet Key Management feature (OTEK) provides the ability to distribute encryption keys to MCC 7500 Dispatch Consoles and AIS'. OTEK supports end-to-end encryption by enabling remote, centralized key management and rekeying of dispatch consoles and the AIS over the network.

With OTEK, the KMF Server can send key management messages to update console/AIS keys, poll the console/AIS, and erase the console/AIS's keys. A console or AIS can also send key management messages to the KMF Server to acknowledge events.

KMF uses OTEK to remotely transfer key management messages to/from the MCC 7500 Console and AIS.

Before new keys can be distributed to the consoles or AIS using OTEK, the console or AIS secure card must have a Unique Key Encryption Key (UKEK), Message Number Period, Radio Set Identifier (RSI), and KMF RSI used to protect the OTEK messages (encryption keys) during distribution. These parameters are usually provided once using the KVL along with the IP address and appropriate port information of the KMF.

To employ the OTEK feature, new keys are assigned to the CKRs that are used by the MCC 7500 consoles and AIS servers and are established as an inactive keyset in the KMF database. (Note: The MCC 7500 console and the AIS server store the associations of talkgroups/multi-groups and CKRs.) The distribution of OTEK messages is initiated to all MCC 7500 consoles that are configured with the affected CKRs.

Upon receiving the OTEK messages, the console or AIS stores the new keys in the inactive keyset of their own key storage database. Voice communications using keys from the active keyset are not interrupted when the new keys in the inactive keyset are distributed. When successful distribution is complete, the KMF displays the OTEK update confirmation. Once the confirmation is displayed, a keyset changeover can be initiated to all consoles or AIS servers in a designated crypto group. When the keyset changeover is done, the KMF instructs the consoles and/or AIS servers to activate the previously inactive keyset and the new keys become currently active.

The MCC 7500 consoles of EBRCSA are VPM-based consoles (an MCC 7500 console interfacing with the secure-capable Voice Processor Module). The KMF equipment is installed on an external customer network. All key management traffic is passed through the network interface barrier to reach the MCC 7500 dispatch console and AIS.

This solution includes OTEK for a total of 182 existing MCC 7500 console positions and AIS servers located throughout the EBRCSA network.

### 1.1.3 Over-the-Air Rekeying

Over-the-Air Rekeying (OTAR) is enabled via Motorola's FIPS 140-2 certified Key Management Facility; this allows system operators to easily and securely change encryption keys on a regular basis, making the keys a moving target, and thus more difficult for adversaries to crack.

EASILY AND SECURELY  
CHANGE ENCRYPTION KEYS  
TO ENSURE THE SAFETY OF  
YOUR RESPONDERS

If one of the radios is compromised, you have the ability to:

- **Remote inhibit** – Securely prevent radios from gaining access to the network from a distance
- **Remote enable** – Securely re-establish a radio's network access from a distance
- **Zero-ize** – Securely remove a radio's key material
- **Change-over** – Securely switch a radio's keyset to another keyset for use

OTAR, like POP25, sends updates to radios over the air, so users do not have to bring their radios in for manual service. This is especially important for encryption keys, because a manual change out could take days or weeks to accomplish.

Upgrading existing EBRCSA member agency subscriber units with AES encryption, OTAR or multikey is not included in this budgetary and can be quoted to member agencies directly.

### 1.1.4 Key Management Facility (KMF)

The Key Management Facility (KMF), a centralized key manager, is the essential key management controller for Motorola's Project 25 Over-The-Air-Rekeying (OTAR) feature. Using the KMF, information can easily be created, inventoried, archived, and distributed to end-users. Combining centralized key management with our standards-based OTAR capability enables effective planning, implementation, and execution of robust security procedures.

Two (2) KMF Servers in a redundant configuration are included in this offering.

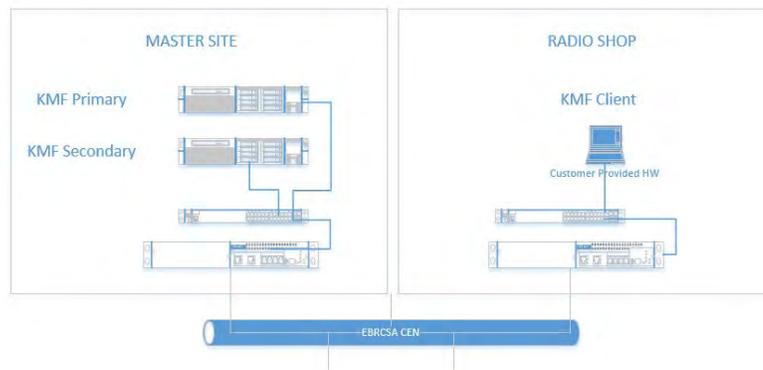


Figure 1-2 : Proposed KMF System Diagram

### 1.1.5 KMF Web-Based Thin Client

The Key Management Facility (KMF) is a robust encryption key management solution that supports Motorola Solutions specific and P25 features, including Over-the-Air-Rekeying (OTAR). Utilizing the KMF, information can be created, inventoried, and distributed to encrypted endpoints including consoles and radios.

**ENABLE EFFECTIVE  
PLANNING,  
IMPLEMENTATION, AND  
EXECUTION OF ROBUST  
SECURITY PROCEDURES**

The KMF Web-Based Thin Client application provides KMF users with a modern, web-based client interface with improvements to installation, network traffic, and graphical reporting capabilities. This application enables personnel to generate detailed reports, receive at-a-glance status updates via a web-based interface, and monitor data visualizations to analyze system key material information.

The below figure provides examples of the at-a-glance status and data visualization screens.



Figure 1-3: KMF Web Based Thin Client Sample Screens

EBRCSA will provide the laptops for the Web-based KMF Thin Client Application.

The proposed KMF supports 19,000 devices, 4 agency partitioning and 65 KMF Thin Client Applications.

### 1.1.6 Securing APX NEXT Communications

APX NEXT uses Motorola Solutions’ hardened End-to-End security to protect communications and allow only authorized units in the system to listen to transmissions. End-to-End security provides seamless protection from the device and data in transit to the cloud and the LMR system (Figure 1-4).

This solution ensures each component in the system is designed and validated against ongoing threat assessments to ensure vulnerabilities are detected and remedied, while potential new

vulnerabilities will be addressed with seamless security updates. This offers transparent, real-time protection and keeps critical information and infrastructure safe.



Figure 1-4: Motorola Solutions' End-to-End Security Solution

### 1.1.7 ViQi Virtual Partner Application LTE Service

Maintaining situational awareness and first responder safety through natural operation is integral to the APX NEXT radio. This outcome is achieved through ViQi™ Virtual Partner—a cloud-based service that provides vital public safety information via voice. With a single button press and simple audio prompt, your personnel can use natural language to run a license plate or driver's license, and search for vehicles with matching vehicle identification numbers straight from the field without disruption (Figure 1-5).

Virtual Partner leverages artificial intelligence capabilities to interpret voice queries and quickly deliver query results in an audible format. This empowers field personnel to submit queries with the radio without the risk of losing situational awareness while typing a manual query. The automated nature of the solution also allows officers to obtain critical information faster than relaying the query to dispatchers. The APX NEXT radio will leverage supported broadband networks to send queries and return responses.

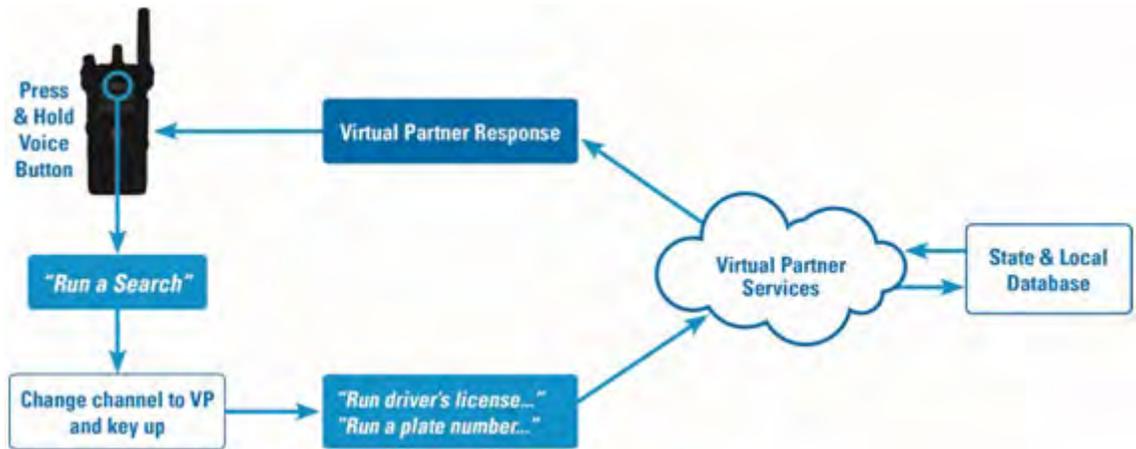


Figure 1-5: ViQi - Virtual Partner Services Flow Diagram

The Virtual Partner Application Service is proposed as a subscription-based model to optimize budget and scale to meet evolving needs. A one (1) year trial subscription is included in this proposal.

### 1.1.8 SmartConnect Application Service

First responders need to know that they are covered and supported with critical intelligence no matter where the mission takes them. Leveraging APX NEXT and supported devices, SmartConnect keeps users connected and maintains critical LMR features through a broadband connection. By seamlessly switching between P25 LMR and LTE cellular networks, SmartConnect extends reliable PTT communications as radio users roam onto supported broadband networks. Authentication, status, talkgroups, and encryption are all preserved automatically, without interruptions or resets to ensure that end users continue to have access to the critical features they need in emergency situations (Figure 1-6).

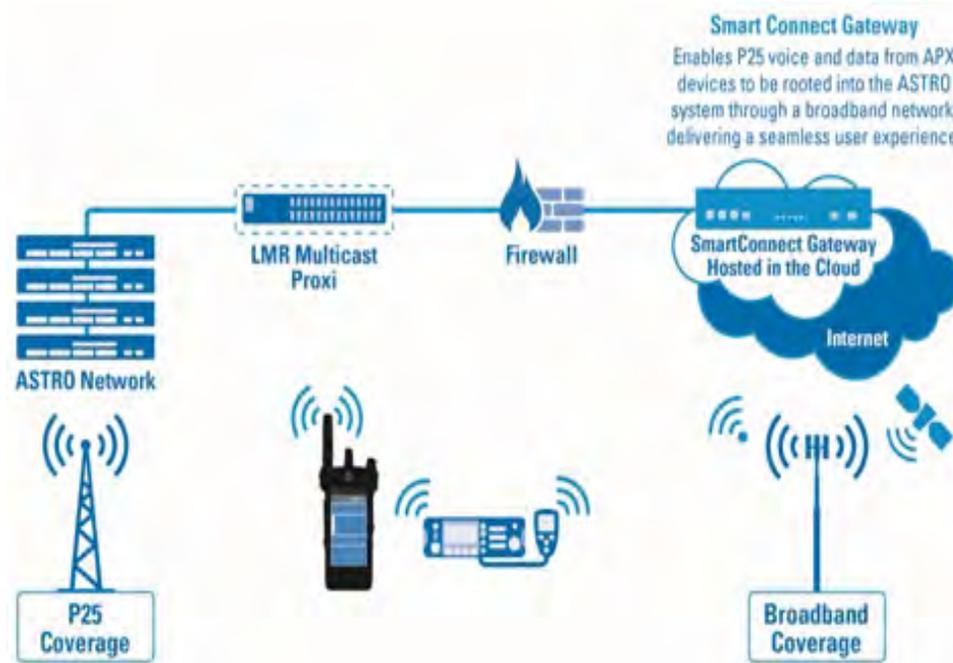


Figure 1-6: APX NEXT Network Elements of SmartConnect

SmartConnect allows users to retain most P25 radio features when out of range of LMR, including the following:

- Agency Groups.
- Dynamic Regrouping.
- Call Alert.
- Emergency Call & Alarm.
- FDMA/TDMA to/from LMR System.
- Group Call Clear/Encrypted.
- Group Regrouping.
- Multigroup.
- PTT ID.
- Priority Monitor Scan.
- Radio Authentication.
- Radio Check.
- Radio Inhibit/Uninhibit.
- Radio Interrupt/Console Takeover.
- Status Update.
- ViQi Virtual Partner via LMR network.

The SmartConnect Application Service is proposed as a subscription-based model to optimize budget and scale to meet evolving needs. A one (1) year trial subscription is included in this proposal.

## 1.1.9 SmartMessaging Application LTE Service

SmartMessaging is an application service that allows APX NEXT users to seamlessly and discreetly share multimedia communications over a Broadband connection, offloading traffic from mission-critical LMR networks while enhancing public safety capabilities. From the APX NEXT home screen, users can send more detailed multimedia messages, with image, video, or audio file attachments, to enhance situational awareness and improve response success. An

enhanced search and history functionality is available for users to easily access previous messages by name, content, and time range, helping them find specific information when needed.

SmartMessaging also supports the following capabilities:

- Receive “Be On the Lookout” (BOLO) images, videos, locations, and audio from a WAVE dispatch application sent to an APX NEXT user or predefined groups.
- Send text messages to an individual or group of contacts to provide all necessary personnel with updated intelligence.
- Secure communications with encrypted messaging data from an APX NEXT device to the server.
- Adapt to changing agency needs as new integrations and collaboration tools become available for the SmartMessaging application.

The SmartMessaging Application Service is proposed as a subscription-based model to optimize budget and scale to meet evolving needs. A one (1) year trial subscription is included in this proposal.

## 1.1.10 SmartLocate Application LTE Service

The APX NEXT SmartLocate application sends accurate GPS location information of field personnel over a broadband network, enabling dispatchers to track units more frequently and improve resource deployment. The use of broadband increases the frequency of location reporting beyond an LMR system to allow for a higher number of users without LMR infrastructure capacity limitations.

SmartLocate also enhances location information accuracy using nearby cell-towers and WiFi access points. This leads to more accurate APX NEXT radio unit tracking and improved location performance when a user moves indoors or enters marginal conditions (deep street canyons, forested areas).

SmartLocate is seamlessly integrated with CommandCentral Aware and features location triggers such as time, distance, push-to-talk (PTT), emergency, and accelerated cadence during emergency.

The SmartLocate Application Service is proposed as a subscription-based model that optimizes budget and scales to meet evolving needs. SmartLocate provides enhanced capabilities to existing CommandCentral Aware application investments. A one (1) year trial subscription is included in this proposal. Access to CommandCentral Aware is not included with the SmartLocate subscription.

## 1.1.11 Design and Implementation Assumptions

- New KVL5000 with AES and ADP encryptions are not included.
- Three (3) existing KVL 4000s will be upgraded.
- Both KMF servers will be located at the Master site.
- EBRCSA will provide the KMF client workstation(s).

- Motorola Solutions no longer certifies a specific hardware platform for KMF Client. The workstation for KMF Client must meet the specification listed below. KMF customers can provide their own PC client hardware as long as it meets the MSI specifications.
  - KMF Client Hardware Specifications:
    - Windows 10 OS
    - Modern web browser (Microsoft Chromium Edge, IE11)
    - Minimum 8GB RAM
    - Minimum 1024x768 resolution color display
    - An optional CD/DVD drive
- Any necessary demarcation points are defined as the Motorola Solutions-provided equipment. This includes demarcation for the following services:
  - 120VAC/ -48DC Power & Circuits
  - Backup Power
  - Grounding
  - Communication Circuits and backhaul links between sites
- All subscriber units must support OTAR with Multi-keying and AES encryption. No subscriber upgrades, flashes, programming or modifications are included.
- All existing sites or equipment locations will have sufficient space available for the system described as required/specified by R56.
- All existing sites or equipment locations will have adequate electrical power (and backup power, if necessary) in the proper phase and voltage and site grounding to support the requirements of the system described by R56.
- Any site/location upgrades or modifications are the responsibility of the EBRCSA.
- Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of the EBRCSA.
- Any required system interconnections not specifically outlined here will be provided by EBRCSA, including but not limited to dedicated phone circuits or microwave links.
- Additional AIS, IP logging recorder and control stations are excluded in this offering and will be proposed separately if needed.
- Additional licenses of the existing IP Logging Recorder(s) are not included in this budgetary.
- There is an existing CEN to CEN connectivity between Contra Costa County Radio Shop and the Alameda County Master Site. EBRCSA will ensure this connectivity is in place to support this project.
- Where necessary, the EBRCSA will provide a dedicated delivery point—such as a warehouse— for receipt, inventory, and storage of equipment prior to delivery to the sites.
- Work is performed during normal business hours on non-holidays, Monday – Friday, 8am –5pm.
- Union labor and Prevailing Wage labor are not requirements.
- No performance bond is required.
- The Motorola System Technologist will provide training at a smaller dispatch site (five or less operator positions) supported by each of the radio shops (Alameda and Contra Costa). Once the training is complete the Radio Shops will be responsible to upgrade the consoles with AES encryption, secure operation and OTEK capability within a one year timeframe.
- The Motorola System Technologist will enter the first operator positions involved in the training into the KMF with the two Radio Shops. The remaining 182 operator positions



and AIS' will be loaded by the Radio Shops into the KMF. No additional subscribers will be configured as part of this proposal.

- Rack space and power are available at the proposed Master site location ((Alameda County Master Site) to install four (4) G10 servers,three (3) CryptR rack shelves, and one (1) firewall.
- This proposal assumes a new installation of KMF servers. No existing KMF database or application data is proposed to be migrated.
- The AES algorithm is the only encryption algorithm required.
- The Contra Costa County Radio Shop and Alameda County Shop will be responsible for fleetmapping, codeplug generation and subscriber re-programming, as necessary.
- Motorola will review the county shop provided codeplugs.

SECTION 2

# STATEMENT OF WORK

Motorola is proposing to East Bay Regional Communications System Authority the installation and configuration of the following equipment at the specified locations.

Site Name	Major Equipment
Alameda Master Site	KMF Primary and Secondary Servers, as well as two WAVE servers
Contra Costa Radio Shop	KMF Client (Customer provided Hardware)
System Consoles	Upgrades for up to ten consoles with Alameda and Contra Costa shops to provide AES encryption, secure capability and OTEK functionality.

The sections below delineate the general responsibilities between Motorola and East Bay Regional Communications System Authority as agreed to by contract.

## 2.1 MOTOROLA RESPONSIBILITIES

Motorola's general responsibilities include the following:

- Installation, optimization, and programming of Key Management Facility to support Console Encryption
- Schedule the implementation in agreement with East Bay Regional Communications System Authority
- Coordinate the activities of all Motorola personnel and subcontractors under this contract
- Network integration into the EBRCSA system and existing CEN
- Administer safe work procedures for installation
- Acceptance Testing of KMF equipment
- Project Management, System Technologist, Post Sale Engineering Support
- Secure Communications Training
- Training of the Alameda and Contra Costa Radio Shops on how to upgrade a console position with AES encryption, Secure operation, and OTEK. Training not to exceed two days per agreed upon dispatch center of five operator positions or less for an agency supported by each Radio Shop.
- Documentation modifications

NOTE: Services for subscriber flashes, programming, or implementation are not included

## 2.2 EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY RESPONSIBILITIES

East Bay Regional Communications System Authority will assume responsibility for the installation and performance of all other equipment and work necessary for completion of this



project that is not provided by Motorola. General responsibilities for East Bay Regional Communications System Authority include the following:

- Provide all buildings and equipment shelters required for system installation
- Insure communications sites meet space, grounding, power, and connectivity requirements for the installation of all equipment.
- Obtain site access required for project implementation.
- EBRCSA will provide a dedicated delivery point, such as a warehouse, for receipt, inventory and storage of equipment prior to delivery to the site(s).
- Coordinate the activities of all East Bay Regional Communications System Authority vendors or other contractors.
- Coordinate the activities of all East Bay Regional Communications System Authority agencies and provide access to the agency sites.
- Alameda and Contra Costa Radio Shops shall attend the console encryption upgrade training provided by the Systems Technologist, not to exceed two days per dispatch of up to five console positions for each agency.
- The remainder of the encryption upgrades to the console positions in the system are the sole responsibility of the Contra Costa and Alameda Radio Shops and should be completed within a year timeframe. On-going support of the installations/upgrades by the Systems Technologists has not been included as part of the project.

Motorola Solutions will install, configure, optimize, test and cutover the proposed KMF equipment. Motorola Solutions will also train the Radio Shops for 2 days to perform the console encryption upgrades for the remainder of the system agencies. The following table describes the implementation phases, activities and tasks involved in the project and responsible parties.

## 2.3 AES ENCRYPTION AND APX FEATURE ENABLEMENT AT THE CORE

Tasks	Motorola Solutions	EBRCSA
<b>PROJECT INITIATION</b>		
<b>Contract Finalization and Team Creation</b>		
Execute contract and distribute contract documents.	X	X
Assign a Project Manager as a single point of contact.	X	X
Assign resources.	X	X
Schedule project kickoff meeting.	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
<b>Project Administration</b>		
Ensure that project team members attend all meetings relevant to their role on the project.	X	X

Tasks	Motorola Solutions	EBRCSA
Set up the project in the Motorola Solutions information system.	X	
Record and distribute project status meeting minutes.	X	
Maintain responsibility for third-party services contracted by Motorola Solutions.	X	
Complete assigned project tasks according to the Project Schedule.	X	X
Submit project milestone completion documents.	X	
Upon completion of tasks, approve project milestone completion documents.		X
Conduct all project work Monday thru Friday, 8:00 a.m. to 5:00 p.m.).	X	
Deliverable: Completed and approved project milestones throughout the project.		
<b>Project Kickoff</b>		
Introduce team, review roles, and decision authority.	X	X
Present project scope and objectives.	X	
Review SOW responsibilities and Project Schedule.	X	X
Schedule Design Review.	X	X
Deliverable: Completed project kickoff and scheduled Design Review.		
<b>Design Review</b>		
Review the Customer's operational requirements.	X	X
Present the system design and operational requirements for the solution.	X	
Present installation plan.	X	
Present preliminary cutover plan and methods to document final cutover process.	X	
Present configuration and details of sites required by system design.	X	
Validate that Customer sites can accommodate proposed equipment.	X	X
Provide approvals required to add equipment to proposed existing sites.		X
Review safety, security, and site access procedures.	X	
Present equipment layout plans and system design drawings.	X	
Provide backhaul performance specifications and demarcation points.	X	
Provide heat load and power requirements for new equipment.	X	
Provide information on existing system interfaces.		X

Tasks	Motorola Solutions	EBRCSA
Assume liability and responsibility for providing all information necessary for complete installation.		X
Assume responsibility for issues outside of Motorola Solutions' control.		X
Review and update design documents, including System Description, Statement of Work, Project Schedule, and Acceptance Test Plan, based on Design Review agreements.	X	
Provide minimum acceptable performance specifications for customer provided hardware, software, LAN, WAN and internet connectivity.	X	
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	X	X
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.		
<b>SITE PREPARATION</b>		
<b>Site Access</b>		
Provide site owners/managers with written notice to provide entry to sites identified in the project design documentation.		X
Coordination with EBRCSA agencies for timely access to sites and core equipment.		X
Assume responsibilities for delays created by EBRCSA agencies.		X
Maintain access roads in order to provide clear and stable entry to sites for heavy-duty construction vehicles, cement trucks and cranes. Ensure that sufficient space is available at the site for these vehicles to maneuver under their own power, without assistance from other equipment.		X
Obtain site licensing and permitting, including site lease/ownership, zoning, permits, regulatory approvals, easements, power, and telco connections.		X
Deliverable: Access and permitting necessary to install system equipment at each site.		
<b>Site Planning</b>		
Provide necessary buildings and equipment shelters for installation of system equipment.		X
Provide the R56 requirements for space, power, grounding, HVAC, and connectivity requirements at each site.	X	
Provide adequate electrical power in proper phase and voltage at sites.		X
Confirm that there is adequate utility service to support the new equipment and ancillary equipment.		X
Conduct site walks to collect pertinent information (e.g. location of telco, power, structures, etc.)	X	
Ensure that each site meets the R56 standards for space, grounding, power, HVAC, and connectivity requirements.		X
Pay for application fees, taxes, and recurring payments for lease/ownership of property.		X
Ensure that required rack space is available for installation of the new equipment.		X

Tasks	Motorola Solutions	EBRCSA
Deliverable: Information and permitting requirements completed at each site.		
<b>General Facility Improvements</b>		
Provide adequate HVAC, grounding, lighting, cable routing, and surge protection based upon Motorola Solutions' Standards and Guidelines for Communication Sites (R56)		X
Ensure the resolution of environmental and hazardous material issues at each site including, but not limited to, asbestos, structural integrity (tower, rooftop, water tank, etc.), and other building risks.		X
Ensure that electrical service will accommodate installation of system equipment, including isolation transformers, circuit breakers, surge protectors, and cabling.		X
Provide obstruction-free area for the cable run between the demarcation point and system equipment.		X
Supply interior building cable trays, raceways, conduits, and wire supports.		X
Pay for usage costs of power and generator fueling, during the installation effort, and on an ongoing basis.		X
Transport removed site equipment (for facility readiness) to a location designated by Customer and within Customer's jurisdiction.		X
Deliverable: Sites meet physical requirements for equipment installation.		
<b>SYSTEM IMPLEMENTATION</b>		
<b>Equipment Order and Manufacturing</b>		
Create equipment order and reconcile to contract.	X	
Manufacture Motorola Solutions-provided equipment necessary for system based on equipment order.	X	
Procure non-Motorola Solutions equipment necessary for the system.	X	
Deliverable: Equipment procured and ready for shipment.		
<b>Field Staging</b>		
Provide a secure location to store the upgrades and equipment.		X
Ship all equipment needed to a secure customer provided location.	X	
Provide information on existing system interfaces, room layouts, or other information necessary for the assembly to meet field conditions.		X
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X	
Cut and label the cables with to/from information to specify interconnection for field installation and future servicing needs.	X	
Complete the cabling/connecting of the subsystems to each other ("connectorization" of the subsystems).	X	
Assemble required subsystems to assure system functionality.	X	

Tasks	Motorola Solutions	EBRCSA
Power up, load application parameters, program, and test all field staged equipment.	X	
Inventory the equipment with serial numbers and installation references.	X	
Deliverable: System field staged and ready for shipment.		
<b>Equipment Shipment and Storage</b>		
Provide secure location for solution equipment.		X
Pack and ship solution equipment to the identified, or site locations.	X	
Receive solution equipment.	X	
Inventory solution equipment.	X	X
Deliverable: Solution equipment received and ready for installation		
<b>General Installation</b>		
Deliver solution equipment to installation location.	X	
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X	
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control line connection points. Installation performed in accordance with R56 standards and state/local codes.	X	
Cut and label the cables with to/from information to specify interconnection for field installation and future servicing needs.	X	
Complete the cabling/connecting of the subsystems to each other (“connectorization” of the subsystems).	X	
Assemble required subsystems to assure system functionality.	X	
Power up, load application parameters, program, and test all field staged equipment.	X	
Provide system interconnections that are not specifically outlined in the system design, including dedicated phone circuits, microwave links, or other types of connectivity.		X
Install and terminate all network cables between site routers and network demarcation points, including microwave, leased lines, and Ethernet.	X	
Ensure that Type 1 and Type 2 AC suppression is installed to protect installed equipment.		X
Connect installed equipment to the provided ground system.	X	
Label equipment, racks, and cables.	X	
Perform preliminary audit of installed equipment to ensure compliance with requirements and R56 standards.	X	
Inventory the equipment with serial numbers and installation references.	X	

Tasks	Motorola Solutions	EBRCSA
Note any required changes to the installation for inclusion in the “as-built” system documentation.	X	
Remove, transport, and dispose of old equipment, if applicable.		X
Deliverable: Equipment installed.		
<b>KMF Servers, WAVE Servers and Remote Client Installation and Configuration</b>		
Install fixed equipment contained in the equipment list and system description.	X	
Provide backhaul connectivity and associated equipment for all sites to meet latency, jitter and capacity requirements.		X
Configure ASTRO 25 system to support the new equipment.	X	
Verify site link performance, prior to the interconnection of the solution equipment to the remote client.	X	
Integrate the KMF primary and secondary servers, as well as the KMF client into the system to ensure proper operation.	X	
Deliverable: KMF and WAVE Servers equipment installation completed.		
<b>Existing Core and Dispatch Equipment Upgrade</b>		
Supply existing Core and Dispatch equipment.		X
Identify the consoles available for upgrade at each location for the identified duration required to perform the upgrade.		X
Perform hardware and software upgrades to existing Core and up to 10 Dispatch positions to add OTEK and AES encryption with the Alameda and Contra Costa Radio Shops.	X	
Perform hardware and software upgrades to the remaining existing Dispatch equipment to add OTEK and AES encryption over a period not to exceed one year.		X
Deliverable: Existing Core and Dispatch equipment hardware and software upgrades completed.		
<b>SYSTEM OPTIMIZATION AND TESTING</b>		
<b>R56 Site Audit</b>		
Perform R56 site-installation quality-audits, verifying proper physical installation and operational configurations.	X	
Create site evaluation report to verify site meets or exceeds requirements, as defined in Motorola Solutions’ R56 Standards and Guidelines for Communication Sites.	X	
Deliverable: R56 Standards and Guidelines for Communication Sites audits completed successfully.		
<b>Solution Optimization</b>		
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	X	
Verify that all audio and data levels are at factory settings.	X	
Verify communication interfaces between devices for proper operation.	X	

Tasks	Motorola Solutions	EBRCSA
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	X	
Deliverable: Completion of System Optimization.		
<b>Functional Acceptance Testing of Encryption, Secure Operation and OTEK</b>		
Verify the operational functionality and features of the solution supplied by Motorola Solutions, as contracted.	X	
Witness the functional testing.		X
Document all issues that arise during the acceptance tests.	X	
If any major task for the system as contractually described fails during the Customer acceptance testing or beneficial use, repeat that particular task after Motorola Solutions determines that corrective action has been taken.	X	
Resolve any minor task failures before Final System Acceptance.	X	
Document the results of the acceptance tests and present for review.	X	
Review and approve final acceptance test results.		X
Deliverable: Completion of AES encryption, Secure operation, and OTEK functional testing and approval by Customer.		
<b>PROJECT FINALIZATION AND CLOSEOUT</b>		
<b>APX NEXT SMART Features Operational Demonstration</b>		
Verify the operational functionality of the SmartConnect, SmartLocate, SmartMessaging and ViQi APX NEXT features.	X	
Demonstrate APX NEXT features operation.	X	
Witness the operational demonstration.		X
Deliverable: APX NEXT SMART Features operational demonstration completed.		
<b>APX NEXT Applications OnLine Training</b>		
Finalize schedule for training coursework.	X	
Provide training facility.		X
Ensure that the training participants fulfill course prerequisites.		X
Provide access to and conduct the online training classes outlined in the Training Plan.	X	
Attend proposed training classes.		X
Deliverable: APX NEXT Applications Online Training coursework completed.		
<b>Cutover</b>		
Finalize Cutover Plan.	X	X

Tasks	Motorola Solutions	EBRCSA
Conduct cutover meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during cutover and during the general operation of the system.	X	
Notify the personnel affected by the cutover of the date and time planned for cutover.		X
Provide ongoing communication with users regarding the project and schedule.	X	X
Cut over users and ensure that user consoles are operating on system.	X	
Resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.	X	
Assist Motorola Solutions with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist items.		X
Deliverable: Migration to new system completed, and punchlist items resolved.		
<b>Transition to Warranty</b>		
Review the items necessary for transitioning the project to warranty support and service.	X	
Motorola Solutions to provide services during year 1 warranty which align with the proposed services.	X	
Provide a Customer Support Plan detailing the warranty support associated with the contract equipment.	X	
Participate in the Transition to Warranty.		X
Deliverable: Service information delivered and approved by Customer		
<b>Finalize Documentation and System Acceptance</b>		
Provide manufacturer's installation material, parts list and other related material to Customer upon project completion.	X	
Provide an electronic as-built system manual on CD or other Customer preferred electronic media. The documentation will include the following: <ul style="list-style-type: none"> <li>▪ Site Equipment Rack Configurations.</li> <li>▪ Functional Acceptance Test Plan Test Sheets and Results.</li> <li>▪ Equipment Inventory List.</li> <li>▪ Maintenance Manuals (where applicable).</li> <li>▪ Technical Service Manuals (where applicable).</li> </ul> Drawings will be delivered in Adobe PDF format.	X	
Receive and approve documentation.		X
Execute Final Project Acceptance.	X	X

Tasks	Motorola Solutions	EBRCSA
Deliverable: All required documents are provided and approved. Final Project Acceptance.		

## 2.4 ASSUMPTIONS

The following assumptions were made in this proposal. Motorola reserves the right to confirm these assumptions and follow up with the EBRCSA about any additional scope necessary to implement this project. All changes to the proposed design and/or implementation project are handled through a standard Change Order process.

### 2.4.1 General Assumptions

- The EBRCSA will provide all buildings and consoles required for system installation and upgrades.
- Motorola's Project Schedule is predicated on the sites being ready for installation. Any substantial delays could result in a modification to the Project Schedule and a Change Order to adjust price.
- All sites have adequate space in the buildings/shelters for the Motorola provided equipment.
- Any site upgrades or changes necessary to comply with R56 requirements are the EBRCSA's responsibility. This includes, but is not limited to, providing ground bars and following R56 grounding standards.
- The EBRCSA will supply all necessary floor plans and identify space for the proposed equipment.
- The EBRCSA will provide interior building cable trays, raceways, conduits, and wire supports.
- The EBRCSA is responsible to provide adequate AC power for all the proposed equipment. Motorola will provide requirements and recommendations on power draw and number of circuits needed during the Design Review.
- The EBRCSA will provide UPS' and generators at all sites as a backup power source.
- The EBRCSA is responsible for identifying connections from all environmental alarms at the sites to the proposed digital and analog inputs that tie into the Aux IOs.
- The EBRCSA will provide all backhaul.
- The EBRCSA will work with Motorola to identify the location and provide the required network infrastructure required for the KMF Client position.
- The EBRCSA will work with Motorola to identify the location and provide the network infrastructure required for the CommandCentral Aware solution.
- The proposal does not include integration of additional radio resources not currently integrated into the existing MCC 7500 consoles.
- The EBRCSA will obtain all licensing, site access, or permitting required for project implementation.
- The EBRCSA will secure site lease/ownership, zoning, permits, regulatory approvals, easements, power, and Telco connections.
- The EBRCSA will provide all required local, State, and Federal permits for the installation and operation of the proposed equipment.
- The EBRCSA will provide any necessary demarcation points for the Motorola-provided equipment. This includes demarcation for the following services:

- 120VAC/ -48DC Power and Circuits.
- Backup Power.
- Grounding.
- Communication Circuits and backhaul links between sites.
- The EBRCSA will provide any logging, 911, CAD or any 3rd party upgrades or reconfigurations required.

## 2.5 COMMANDCENTRAL AWARE

### 2.5.1 Introduction

In accordance with the terms and conditions of the Agreement, this Statement of Work (“SOW”) defines the principal activities and responsibilities of all parties for the delivery of the Motorola Solutions (“Motorola”) system as presented in this offer to East Bay Regional Communications System Authority (hereinafter referred to as “Customer”). When assigning responsibilities, the phrase “Motorola” includes our subcontractors and third-party partners.

Deviations and changes to this SOW are subject to mutual agreement between Motorola and the Customer and will be addressed in accordance with the change provisions of the Agreement.

Unless specifically stated, Motorola work is performed remotely. Customer will provide Motorola resources with unrestricted direct network access to enable Motorola to fulfill its delivery obligations.

Motorola and the Customer will work to complete their respective responsibilities in accordance with the mutually agreed upon governing Project Schedule. Any changes to the governing Project Schedule will be mutually agreed upon via the change provision of the Agreement.

The number and type of software or subscription licenses, products, or services provided by Motorola or its subcontractors are specifically listed in the Agreement and any reference within this document as well as subcontractors’ SOWs (if applicable) does not imply or convey a software or subscription license or service that are not explicitly listed in the Agreement.

#### 2.5.1.1 Award, Administration and Project Initiation

Project Initiation and Planning will begin following execution of the Agreement between Motorola and the Customer.

Following the conclusion of the Project Planning Session, the Motorola Project Manager will conduct twice monthly one-hour remote status meetings with the Customer Project Manager for the purpose of baselining progress of current activities and the planning of future activities. Following the conclusion of the Contract Design Review, the Motorola Project Manager will prepare and submit monthly status reports to the Customer Project Manager. Monthly Status Reports provide a summary of the activities completed in the month, those activities planned for the following month, project progress against the Project Schedule, items of concern requiring attention as well as potential project risks and agreed upon mitigation actions.



## 2.5.1.2 Completion and Acceptance Criteria

Motorola Integration Services are considered complete upon Motorola performing the last task listed in a series of responsibilities or as specifically stated in Completion Criteria. Customer task completion will occur per the Project Schedule enabling Motorola to complete its tasks without delay.

Customer will provide Motorola written notification that it does not accept the completion of Motorola responsibilities or rejects a Motorola service deliverable within five (5) business days of completion or receipt of a deliverable.

The Service Completion will be acknowledged in accordance with the terms of Master Customer Agreement and the Service Completion Date will be memorialized by Motorola and Customer. Software System Completion will be in accordance with the terms of the Software Products Addendum unless otherwise stated in this Statement of Work.

## 2.5.2 Project Roles and Responsibilities Overview

### 2.5.2.1 Motorola Project Roles and Responsibilities

A Motorola team, made up of specialized personnel, will be appointed to the project under the direction of the Motorola Project Manager. Team members will be multi-disciplinary and may fill more than one role. Team members will be engaged in different phases of the project as necessary.

In order to maximize efficiencies Motorola's project team will provide services remotely via teleconference, web-conference or other remote method in fulfilling its commitments as outlined in this Statement of Work. Motorola project team resources will be on site at the Customer location when fulfilling commitments that are crucial to project success as noted in this Statement of Work.

The personnel role descriptions noted below provide an overview of typical project team members. There may be other personnel engaged in the project under the direction of the Project Manager. The following provided descriptions of the primary roles engaged in the delivery of the project. One or many resources of the same type may be engaged as needed throughout the project.

Motorola's project management approach has been developed and refined based on lessons learned in the execution of hundreds of system implementations. Using experienced and dedicated people, industry-leading processes, and integrated software tools for effective project execution and control, we have developed and refined practices that support the design, production, and testing required to deliver a high-quality, feature-rich system.

#### **Project Manager**

A Motorola Project Manager will be assigned as the principal business representative and point of contact for the organization. The Project Manager's responsibilities include:

1. Manage the Motorola responsibilities related to the delivery of the project.
2. Maintain the Project Schedule and manage the assigned Motorola personnel and applicable subcontractor/supplier resources.
3. Manage the Change Order process per the Agreement.

4. Maintain project communications with the Customer.
5. Identify and manage project risks.
6. Collaborative coordination of Customer resources to minimize and avoid project delays.
7. Measure, evaluate, and report the project status against the Project Schedule.
8. Conduct remote status meetings on a mutually agreed basis to discuss project status.
9. Prepare and submit a monthly status report that identifies the activities of the previous month, as well as activities planned for the current month, including an updated Project Schedule and action item log.
10. Provide timely responses to issues related to project progress.

### **Solutions Architect**

The Solutions Architect is responsible for the delivery of the technical and equipment elements of the solution. They confirm the delivered technical elements meet contracted requirements. They are engaged throughout the duration of the delivery.

### **Customer Success Advocate**

A Customer Success Advocate will be assigned to the Customer Post Go Live event. By being the Customer's trusted advisor, the Customer Success Advocate's responsibilities include:

- Assist the Customer with maximizing the use of their Motorola software and service investment.
- Actively manage, escalate, and log issues with Support, Product Management, and Sales.
- Provide ongoing customer communication about progress, timelines, and next steps.

### **Customer Support Services Team**

The Customer Support Services team will provide ongoing support following commencement of beneficial use of the Customer's System(s) as defined in Customer Support Plan.

## **2.5.2.2 Customer Project Roles and Responsibilities Overview**

The success of the project is dependent on early assignment of key Customer resources. It is critical these resources are empowered to make provisioning decisions based on the Customer's operational and administration needs. The Customer project team should be engaged from project initiation through beneficial use of the system. The continued involvement in the project and use of the system will convey the required knowledge to maintain the system post completion of the project. In some cases, one person may fill multiple project roles. The project team must be committed to participate in activities for a successful implementation.

### **Project Manager**

The Project Manager will act as the primary Customer point of contact for the duration of the project. In the event the project involves multiple agencies, Motorola will work exclusively with a single Customer assigned Project Manager (the primary Project Manager). This includes the management of any third party vendors that are Customer Subcontractors. The Project Manager's responsibilities include:

1. Communicate and coordinate with other project participants.



2. Manage the Customer project team including timely facilitation of efforts, tasks, and activities.
3. Maintain project communications with the Motorola Project Manager.
4. Identify the efforts required of Customer staff to meet the task requirements and milestones in this SOW and Project Schedule.
5. Consolidate all project-related questions and queries from Customer staff to present to the Motorola Project Manager.
6. Review the Project Schedule with the Motorola Project Manager and finalize the detailed tasks, task dates, and responsibilities.
7. Measure and evaluate progress against the Project Schedule.
8. Monitor the project to ensure resources are available as scheduled.
9. Attend status meetings.
10. Provide timely responses to issues related to project progress.
11. Liaise and coordinate with other agencies, Customer vendors, contractors, and common carriers.
12. Review and administer change control procedures, hardware and software certification, and all related project tasks required to maintain the Project Schedule.
13. Ensure Customer vendors' adherence to overall Project Schedule and Project Plan.
14. Assign one or more personnel who will work with Motorola staff as needed for the duration of the project, including at least one representative(s) from the IT department.
15. Identify the resource with authority to formally acknowledge and approve Change Orders, approval letter(s), and milestone recognition certificates as well as approve and release payments in a timely manner.
16. Provide building access to Motorola personnel to all Customer facilities where system equipment is to be installed and/or upgraded during the project. Temporary identification cards are to be issued to Motorola personnel if required for access to facilities.
17. Ensure remote network connectivity and access to Motorola resources.
18. As applicable to this project, assume responsibility for all fees for licenses and inspections and for any delays associated with inspections due to required permits.
19. Provide reasonable care to prevent equipment exposure to contaminants that cause damage to the equipment or interruption of service.
20. Ensure a safe work environment for Motorola personnel.
21. Provide signatures of Motorola-provided milestone certifications and Change Orders within five (5) business days of receipt.

### **Transformation Lead**

The Transformation Lead, who may or may not be your Project Manager, must be able to holistically represent your organization and be able to work cross functionally between Motorola, your organization, and all stakeholders involved in the delivery of your new system. The Transformation Lead must be empowered to acknowledge the resource and time commitments required of your organization and authorize Motorola to proceed with scheduling the Project Kickoff event.

## **System Administrator**

The System Administrator manages the technical efforts and ongoing tasks and activities of their system as defined in the Customer Support Plan (CSP).

## **IT Personnel**

IT personnel provide required information related to LAN, WAN, wireless networks, server, and client infrastructure. They must also be familiar with connectivity to internal, external, and third-party systems to which the Motorola system will interface.

## **Additional Resources**

Additional resources, such as trainers and database administrators may also be required.

## **User Agency Stakeholders**

User Agency Stakeholders, if the system is deployed in a multi-agency environment, are those resources representing agencies outside of the Customer's agency. These resources will provide provisioning inputs to the SMEs if operations for these agencies differ from that of the Customer agency.

### **2.5.2.2.1 General Customer Responsibilities**

In addition to the Customer Responsibilities stated elsewhere in this SOW, the Customer is responsible for:

1. All Customer-provided equipment including hardware and third-party software necessary for delivery of the System not specifically listed as a Motorola deliverable. This will include end user workstations, network equipment, telephone, or TDD equipment and the like.
2. Configuration, maintenance, testing, and supporting the third-party systems the Customer operates which will be interfaced to as part of this project. The Customer is responsible for providing Application Programming Interface (API) documentation to those systems that document the integration process for the level of interface integration defined by Motorola.
3. Initiate, coordinate, and facilitate communication between Motorola and Customer's third-party vendors as required to enable Motorola to perform its duties.
4. Active participation of Customer Subject Matter Experts (SME's) in project delivery meetings and working sessions during the course of the project. Customer SME's will possess requisite knowledge of Customer operations and legacy system(s) and possess skills and abilities to operate and manage the system.
5. The provisioning of Customer GIS data as requested by Motorola. This information must be provided in a timely manner in accordance with the Project Schedule.
6. Electronic versions of any documentation associated with the business processes identified.
7. Providing a facility with the required computer and audio-visual equipment for training and work sessions as defined in the Training Plan.
8. Ability to participate in remote project meeting sessions using Google Meet.



### 2.5.2.3 Project Planning and Pre-Implementation Review

A clear understanding of the needs and expectations of both Motorola and the Customer are critical to the successful implementation and on-going operation of the included NEXT core enablement applications. In order to establish initial expectations for system deployment and to raise immediate visibility to ongoing operation and maintenance requirements, we will work with you to help you understand the impact of introducing a new solution and your preparedness for the implementation and support of the NEXT core enablement applications within the EBRCSA system.

Ten (10) Wave PTX mobile client licenses, one (1) Web-based Wave PTX Safeguard Multi-Role Dispatch client license, and one (1) Web-based Command Central Aware Standard client are included in the proposed core enablement one (1) year subscription for purposes of trial and proof of concept. APX NEXT radio subscribers and CAD/Mapping/Video integration referenced in feature descriptions are not included in this proposal.

Shortly after contract signing, Motorola will conduct a one-on-one teleconference with your designated resource to review the task requirements of each phase of the project and help to identify areas of potential risk due to lack of resource availability, experience or skill.

The teleconference discussion will focus on the scope of implementation requirements, resource commitment requirements, cross-functional team involvement, a review of the required technical resource aptitudes and a validation of existing skills, and resource readiness in preparation for the Project Kickoff meeting.

#### **Motorola Responsibilities**

1. Make initial contact with the Customer Project Manager and schedule the Pre-Implementation Review teleconference.
2. Discuss the overall project deployment methodologies, inter-agency/inter-department decision considerations (as applicable), and third party engagement/considerations (as applicable).
3. Discuss Customer involvement in system provisioning and data gathering to understand scope and time commitment required.
4. Discuss the online Learning Management System (LMS) training approach.
5. Obtain mutual agreement of the Project Kickoff meeting agenda and objectives.
6. Discuss the NEXT core enablement applications requirements checklist and verify Customer has a copy of the checklist.
7. Coordinate enabling designated Customer administrator with access to the LMS and CommandCentral Aware Console.

#### **Customer Responsibilities**

1. Provide Motorola with the names and contact information for the designated LMS and application administrators.
2. Collaborate with the Motorola PM and set the Project Kickoff meeting date.

### 2.5.2.4 Project Kickoff Teleconference

The purpose of the project kickoff is to introduce project participants and review the overall

scope of the project.

### **Motorola Responsibilities**

1. Conduct a project kickoff teleconference.
2. Validate key project team participants attend the meeting.
3. Introduce all project participants.
4. Review the roles of the project participants to identify communication flows and decision-making authority between project participants.
5. Review the overall project scope and objectives.
6. Review the resource and scheduling requirements.
7. Review the teams' interactions (meetings, reports, milestone acceptance) and Customer participation.
8. Request any interfacing subsystem (i.e. LTE) third- party documents necessary to establish interfaces with local and remote systems.
9. Verify Customer Administrator(s) have access to the LMS and CommandCentral Aware Console.

### **Customer Responsibilities**

1. Validate key project team participants attend the meeting.
2. Introduce all project participants.
3. Review the roles of the project participants to identify communication flows and decision-making authority between project participants.
4. Provide VPN access to Motorola staff to facilitate delivery of services described in this Statement of Work.
5. Validate any necessary non-disclosure agreements, approvals, and other related issues are complete in time so as not to introduce delay in the Project Schedule. Data exchange development must adhere to third-party licensing agreements.
6. Provide all paperwork and/or forms (i.e. fingerprints, background checks, card keys and any other security requirement) required of Motorola resources to obtain access to each of the sites identified for this project.
7. Provide the contact information for the license administrator for the project. I.e. IT Manager, CAD Manager, and any other key contact information as part of this project.
8. Validate access to the LMS and CommandCentral Aware Console.
9. Provide the information required in the NEXT core enablement applications requirements checklist.

## **2.5.3 Contract Design Review (CDR)**

### **2.5.3.1 Contract Design Review**

The objective is to review the contracted applications, Project Schedule, bill of materials, functional demonstration approach and contractual obligations of each party.



Any changes to the contracted scope can be initiated via the change provision of the Agreement.

### **Motorola Responsibilities**

1. Review the Ordering Documents: System Description, Statement of Work and Project Schedule.
2. Review the technical, environmental and network requirements of the system.
3. Review the initial Project Schedule and incorporate Customer feedback resulting in the implementation Project Schedule. The Project Schedule will be maintained by Motorola and updated through mutual collaboration. Schedule updates that impact milestones will be addressed via the change provision of the Agreement.
4. Review and order contacted hardware.
5. Review the functional demonstration process for NEXT core enablement applications and interfaces.
6. Request shipping address and receiver name.
7. Provide completed paperwork, provided to Motorola during project kickoff that enables Motorola resources to obtain site access.
8. Review the information in the Customer provided NEXT core enablement applications requirements checklist.
9. Grant Customer Administrator with access to CommandCentral Aware Console.
10. Grant Customer LMS Administrator with access to the LMS.
11. Generate a CDR Summary report documenting the discussions, outcomes and any required Change Orders.

### **Customer Responsibilities**

1. Project Manager and key Customer assigned designees attend the meeting.
2. Provide network environment information as requested.
3. Providing shipping address and receiver name.
4. Provide locations and access to the existing data and video equipment that will be part of the NEXT core enablement applications system per the Agreement.

### **Completion Criteria**

The CDR is complete upon Customer receipt of the CDR Summary report.

## **2.5.3.2 Interface Delivery Review**

The objective of the interface delivery review is to discuss the contracted interface, collect network information, API, and access credentials required to connect to third party systems, and document specific configuration parameters.

### **Motorola Responsibilities**

1. Discuss the need for additional information such as third- party API, SDKs, data schema and any internal and 3rd party documents necessary to establish interfaces.

2. Conduct reviews of the interface to explain how each function as well as any dependency on third-party API, SDKs, data schema and any internal and third-party documents necessary to establish interfaces with local and remote systems.
3. Review the functional interface demonstration process.
4. Add interface related details to the CDR Summary Report.

**Customer Responsibilities**

1. Make knowledgeable individuals available for the interface reviews.
2. As applicable, witness the acceptance test that demonstrates NEXT core enablement applications.
3. Establish network connectivity between the CloudConnect Server(s).

**Completion Criteria**

The interface delivery review is considered complete upon Motorola adding additional interface information to the CDR Summary Report.

## 2.5.4 Hardware/Software

Hardware and software activities account for the procurement, staging and configuration of server hardware.

### 2.5.4.1 CloudConnect Server Staging

The objective of this activity is to install the software components on the server procured by Motorola. The server will be tested and verified to be operational in a field staged environment at the Customer’s location.

**Motorola Responsibilities**

1. Order contracted server related components for delivery to the staging facility.
2. Install and configure system software at the Customer’s site.

**Customer Responsibilities**

1. Receive the staged server and securely store it until Motorola installation.
2. Provide power and assign IP addresses for network. Provide backup power, as necessary.
3. Provide network connectivity between the various networks.
4. Provide acknowledgement of receipt of delivered equipment.

**Motorola Deliverables**

Title/Description
Equipment Inventory

## 2.5.4.2 Workstation Installation and Configuration

The objective of this activity is to configure and install the Customer provided workstation and monitors.

### **Motorola Responsibilities**

1. Verify remote access capability after Customer completes physical installation.
2. Configure workstation for CommandCentral Aware.

### **Customer Responsibilities**

1. Perform physical installation of the CommandCentral Aware workstation. Connect to power and network. Assign IP addresses for the network.
2. Provide remote access to the CommandCentral Aware workstation.

### **Completion Criteria**

CommandCentral Aware workstation configuration is complete.

## 2.5.5 Interfaces and Integration

The installation, configuration and demonstration of interfaces may be an iterative series of activities depending upon access to third-party systems. Interfaces will be installed and configured in accordance with the Project Schedule. Integrations of functionality between Motorola developed products will not be completed at this time. The proposed NEXT core enablement applications are for purposes of trial and testing.

## 2.5.6 Core Enablement NEXT Applications Provisioning

### 2.5.6.1 NEXT Applications Solution

Motorola will discuss industry best practices, current operations environment and subsystem integration in order to determine the optimal configuration for NEXT core enablement applications..

### **Motorola Responsibilities**

1. Using the appropriate Provisioning Console, provision users, groups, rules and based off Customer Active Directory data.

### **Customer Responsibilities**

1. Supply the access and credentials to Customer's Active Directory for the purpose of Motorola conducting NEXT core enablement applications provisioning.
2. Respond to Motorola inquiries regarding users/groups/agency mapping to NEXT core enablement applications functionality.

### **Completion Criteria**

NEXT core enablement applications provisioning is complete upon Motorola completing provisioning activities.

## 2.5.7 Core Enablement NEXT Applications Online Training

NEXT applications training is made available to you via Motorola Solutions Software Enterprise Learning Management System (LMS). This subscription service provides you with continual access to our library of on-line learning content and allows your users the benefit of learning at times convenient to them. Content is added and updated on a regular basis to keep information current. All Motorola tasks are completed remotely and enable the Customer to engage in training when convenient to the user.

LMS Administrators are able to add/modify users, run reports, and add/modify groups within the panorama.

### Motorola Responsibilities

1. Initial set up of Panorama\* and addition of administrators.
2. Provide instruction to Customer LMS Administrators on:
  - A. Adding and maintaining users.
  - B. Adding and maintaining Groups\*\*.
  - C. Assign courses and Learning Paths\*\*\*.
  - D. Running reports.

### Customer Responsibilities

1. Provide Motorola with names (first and last) and emails of Customer LMS administrators.
2. Provide access to [learningservices.motorolasolutions.com](https://learningservices.motorolasolutions.com).
3. Complete LMS Administrator training.
4. Advise users of the availability of the LMS.
5. Add/modify users, run reports and add/modify groups.

### Completion Criteria

Work is considered complete upon conclusion of Motorola provided LMS Administrator instruction.

\*Panorama—A panorama is an individual instance of the Learning Management System that provides autonomy to the agency utilizing.

\*\*Groups—A more granular segmentation of the LMS that are generally utilized to separate learners of like function (i.e. dispatchers, call takers, patrol, and firefighters). These may also be referred to as clients within the LMS.

\*\*\*Learning Path—A collection of courses that follow a logical order, may or may not enforce linear progress.

## 2.5.8 NEXT Applications Professional Consulting Services

Professional Consulting Services provide the Customer an opportunity to utilize Motorola subject matter experts as needed to address operational concerns: impromptu training, process re-engineering or one on one personalized support.



### **Motorola Responsibilities**

1. Conduct a discovery teleconference with Customer's PM to understand the Customer needs prior to scheduling on-site service.
2. Provide Customer with a summary of the needs discussed during the teleconference that serve as the focus for the on-site service delivery.
3. Upon agreement of the focus of on-site service, schedule a mutually agreeable date for delivery of on-site service.
4. Provide six days total, spread across two trips, of on-site service Monday through Friday, 8:00 am to 5:00 pm Customer time.
5. Provide Customer with a summary report of the activities completed as part of on-site service delivery.

### **Customer Responsibilities**

1. Participate in the discovery teleconference and agree to objectives.
2. Schedule a mutually agreeable date for delivery of on-site service.
3. Coordinate availability of people or resources required for Motorola to fulfill the focus of on-site service.

### **Completion Criteria**

Work is considered complete upon Motorola providing Customer with the summary report.

## **2.5.9 Operational Demonstration**

The system is exercised throughout the delivery of the project by both Motorola and the Customer via provisioning and training activities. To solidify Customer confidence in the system and prepare for user operation, Motorola will perform prescribed system validations in accordance with an Operational Demonstration Plan.

### **2.5.9.1 Functional Demonstration**

The objective of functional demonstration is to demonstrate Customer access to the CommandCentral features and functions.

#### **Motorola Responsibilities**

1. Update functional demonstration script.
2. Provide script to Customer for review and acknowledgement.
3. Conduct functional demonstration.
4. Create a summary report documenting the activities of the functional demonstration and any corrective actions taken by Customer or Motorola during the demonstration.
5. Provide Customer instruction on using the Customer Feedback Tool for feature/enhancement requests.

#### **Customer Responsibilities**

1. Review and agree to the scope of the demonstration script.

2. Witness the functional demonstration and acknowledge its completion.
3. Resolve any provisioning impacting the functional demonstration.
4. Provide Motorola with any requests for feature enhancements.

#### **Completion Criteria**

Conclusion of the functional demonstration.

### **2.5.10 Completion Milestone**

Following the conclusion of delivery of the functional demonstration the project is considered complete and the completion milestone will be recognized.

### **2.5.11 Transition to Support**

Following the completion of the functional demonstration Customer may commence using CommandCentral Solution for all purposes including productive use. Motorola and Customer will schedule a mutually agreeable time to transition Customers on-going support to Motorola Support organization. The transition of to the Motorola's Support organization completes the implementation activities.

#### **Motorola Responsibilities**

1. Provide Customer with Motorola Support engagement process and contact information.
2. Gather contact information for Customer users authorized to engage Motorola Support.
3. Schedule and facilitate the handover call between Customer and Motorola Support organization.
4. Complete the System Configuration Workbook and provide to Motorola Support as part of the handover.

#### **Customer Responsibilities**

1. Provide Motorola with specific contact information for those users authorized to engage Motorola Support.
2. Participate in the handover call and familiarize themselves with the terms and conditions of support.
3. Engage the Motorola Support organization as needed.

#### **Completion Criteria**

Conclusion of the handover to support.

## **2.6 CHANGE ORDER PROCESS**

Either Party may request changes within the general scope of this SOW. If a requested change causes an increase or decrease in the cost or time required to perform this SOW, the Parties will agree to an equitable adjustment of the Contract Price, Performance Schedule, or both, and will reflect the adjustment in a Change Order. Neither Party is obligated to perform requested changes unless both Parties execute a written Change Order.



SECTION 3

# ACCEPTANCE TEST PLAN AND APX NEXT OPERATIONAL DEMONSTRATION

EBRCSA

AES Encryption and Smart Features

In-Field Draft

[www.motorolasolutions.com/services/government](http://www.motorolasolutions.com/services/government)

Representative 1 Name  
Field Program Manager  
(XXX) XXX-XXXX

Representative 2 Name  
Field Engineer  
(XXX) XXX-XXXX



## 3.1 WIDE AREA TRUNKING - FDMA ONLY SITES

### 3.1.1 Secure Operation

#### 1. DESCRIPTION

Digital encryption is used to scramble a transmission so only properly equipped and configured radios can monitor the conversation. A "Key" is used to encrypt the transmit audio. Only radios with the same "Key" can decrypt the audio and listen to it.

#### SETUP

RADIO-1 - TALKGROUP 1 (SECURE TX MODE)  
RADIO-2 - TALKGROUP 1 (SECURE TX MODE)  
RADIO-3 - TALKGROUP 1 (SECURE MODE and no, or incorrect key)  
RADIO-4 - TALKGROUP 1 (Clear TX Mode)

Note: The identical secure mode must be programmed into RADIO-1, RADIO-2, RADIO-4 and that RADIO-3 has no secure code loaded or has a unique secure code from the other testing radios.

**VERSION #1.020**

#### 2. TEST

- Step 1. Initiate a secure wide area call with RADIO-1 on TALKGROUP 1. Keep this call in progress until instructed to end the call.
- Step 2. Observe that RADIO-2 will be able to monitor the call.
- Step 3. Observe that RADIO-3 does not receive the call.
- Step 4. Observe that RADIO-4 will also receive the call even with the secure switch set to the non-secure mode of operation.
- Step 5. End the call from RADIO-1.
- Step 6. Respond with RADIO-2 and verify that RADIO-1 receives the response audio but RADIO-3 cannot.

Pass\_\_\_\_ Fail\_\_\_\_

## 3.2 MCC 7100/7500 TRUNKED RESOURCES

### 3.2.1 Talkgroup Selection and Call - Secure

#### 1. DESCRIPTION

The Talkgroup Call is the primary level of organization for communications on a trunked radio system. Dispatchers with Talkgroup Call capability will be able to communicate with other members of the same talkgroup. This provides the effect of an assigned channel down to the talkgroup level. When a Talkgroup Call is initiated from a subscriber unit, the call is indicated on each dispatch operator position that has a channel control resource associated with the unit's channel/talkgroup. Digital encryption is used so only properly equipped and configured subscribers can monitor the conversation. A "Key" is used to encrypt the transmit audio. Only radios and Consoles with the same "Key" can decrypt the audio and listen to it.

#### SETUP

RADIO-1 - TALKGROUP 1 (Secure TX Mode)  
RADIO-2 - TALKGROUP 2 (Secure TX Mode)  
RADIO-3 - TALKGROUP 2 (No Keys)  
RADIO-4 - TALKGROUP 1 (Clear TX Mode with Keys loaded)  
CONSOLE-1 - TALKGROUP 1 and TALKGROUP 2 (Secure TX Mode)

#### VERSION #1.040

#### 2. TEST

- Step 1. Initiate a wide area secure call from CONSOLE-1 on TALKGROUP 1.
- Step 2. Verify RADIO-1 can monitor and respond to the secure call.
- Step 3. Verify RADIO-4 can monitor and respond to the secure call because even though it is in clear mode the correct encryption keys are loaded for the secure call.
- Step 4. Initiate a wide area secure call from CONSOLE-1 on TALKGROUP 2.
- Step 5. Verify that RADIO-2 can monitor and respond to the secure call. Note that RADIO-3 cannot monitor the call.

Pass \_\_\_\_ Fail \_\_\_\_



## 3.3 AUDIO IP LOGGING

### 3.3.1 Logging Secure Trunking Talkgroup Call

#### 1. DESCRIPTION

This test will demonstrate the Archiving Interface Server (AIS) can be used to log trunking talkgroup call audio for call in a secure transmit mode on a given talkgroup. The audio is archived in a vocoded decrypted format (IMBE for Trunking Talkgroup Call) only when the logging system user requested coded audio to be logged.

#### SETUP

The AIS at MCC7500 Console site is affiliated to TALKGROUP 1 and has the appropriate secure keys loaded.

RADIO-1 - TALKGROUP 1

RADIO-1 - SITE - SITE 1

CONSOLE-1 - TALKGROUP 1

**VERSION #1.020**

#### 2. TEST

- Step 1. Initiate PTT from RADIO-1 on TALKGROUP 1 in a secure transmit mode.
- Step 2. Observe that the call audio is being sent to the logging system by the playback application.
- Step 3. If TALKGROUP 1 is marked to receive coded audio verify the coded audio can be played back via the application.
- Step 4. Observe that the events for the TALKGROUP 1 call is logged even if the TALKGROUP 1 is not marked to receive coded audio.

Pass\_\_\_\_ Fail\_\_\_\_

## 3.4 OVER THE ETHERNET KEYING (OTEK)

### 3.4.1 Full Update to Console using Over The Ethernet Keying (OTEK)

#### 1. DESCRIPTION

The entire set of encryption keys (in addition to other state parameters) are sent to a console using the Full Unit Update command.

Note: If the console has just been powered up, make sure to let it stabilize and to login via the console user interface to make sure the console registers with the KMF. Verify KMF registration by observing the KMF event viewer to see that the test console has registered.

#### SETUP

CONSOLE-1 - TALKGROUP 3 (Reference console)  
CONSOLE-3 - TALKGROUP 3 (test console that will be used for OTEK operation)  
It is assumed that CONSOLE-3 initially does not have any traffic keys but does have a UKEK.

Note: It is assumed that this test will occur after all OTEK configurations are completed.

Note: This can be done with a VPM based console or a secure card based console.

#### VERSION #1.020

#### 2. TEST

- Step 1. Initiate a secure call on TALKGROUP 3 from CONSOLE-1 to CONSOLE-3
- Step 2. Verify that no audio is received on CONSOLE-3 because the console does not have a key or has the incorrect key.
- Step 3. Go to the Console Management page of the KMF
- Step 4. Select CONSOLE-3 from the list
- Step 5. Initiate a Full Update operation.
- Step 6. Go to the Operation Status page of KMF, verify that CONSOLE-3's Clear Hello operation is shown. The operation is complete when the Operation Status is "Completed."
- Step 7. The console will now have the current keys. Go to the Console Management page of the KMF and verify that CONSOLE-3's currency state is marked as "Current."
- Step 8. Now that CONSOLE-3 is current, verify secure communications between CONSOLE-1 and CONSOLE-3.

Pass\_\_\_\_ Fail\_\_\_\_



## Over the Ethernet Keying (OTEK)

### 3.4.2 Full Update to Archiving Interface Server

#### 1. DESCRIPTION

The entire set of encryption keys (in addition to other state parameters) are sent to a console using the Full Unit Update command.

Note: If the Archiving Interface Server (AIS) has just been powered up, make sure to let it stabilize and to login via the AIS interface to make sure the AIS registers with the KMF. Verify KMF registration by observing the KMF's Operations Status page to see that the test AIS has registered.

Note: It is assumed that this test will occur after all OTEK configurations are completed.

#### SETUP

RADIO-1 - TALKGROUP 1 (Secure TX mode)  
AIS-1 - TALKGROUP 1 (Secure Mode is logged)  
test AIS that will be used for OTEK operation.  
CONSOLE-1 - TALKGROUP 1 (Secure Mode) used as a reference console.

(It is assumed that AIS-1 initially does not have any traffic keys but does have a UKEK.)

Note: This can be done with a VPM based AIS or a secure card based AIS.

#### VERSION #1.020

#### 2. TEST

- Step 1. Go to the AIS Management page of the KMF.
- Step 2. Select AIS-1 from the list.
- Step 3. Initiate a Full Update operation.
- Step 4. Go to the Operation Status page of KMF, verify that AIS-1's Full Update operation is shown. The operation is complete when the Operation Status is "Completed"
- Step 5. Go to the AIS Management page of the KMF.
- Step 6. Open AIS-1's record and view the list of its encryption devices. Verify that their currency state is marked as "Current."
- Step 7. Initiate a secure call on CONSOLE-1 with TALKGROUP 1. Verify RADIO-1 gets the call and can respond.
- Step 8. Verify the AIS has logged the audio from the TALKGROUP 1 call.

Pass \_\_\_\_ Fail \_\_\_\_

### 3.5 SIGNOFF CERTIFICATE

By their signatures below, the following witnesses certify they have observed the system Acceptance Test Procedures.

Signatures

WITNESS:  Date: \_\_\_\_\_

Please Print Name: \_\_\_\_\_ 

Please Print Title: \_\_\_\_\_ Initials: \_\_\_\_\_

WITNESS:  Date: \_\_\_\_\_

Please Print Name: \_\_\_\_\_ 

Please Print Title: \_\_\_\_\_ Initials: \_\_\_\_\_

WITNESS:  Date: \_\_\_\_\_

Please Print Name: \_\_\_\_\_ 

Please Print Title: \_\_\_\_\_ Initials: \_\_\_\_\_

## 3.6 OPERATIONAL DEMONSTRATION

The following exercises are for demonstration purposes only and provide an operational demonstration to validate and demonstrate the SmartConnect, ViQi and SmartMessaging applications on APX NEXT devices. This activity is performed via teleconference. This operational demonstration is governed by the terms and conditions of the attached Proof of Concept Agreement, together with its enclosed Subscription Software Addendum and carrier flow downs that govern the use of the related APX NEXT subscription services.

## 3.7 SMARTCONNECT

### 3.7.1 SmartConnect - Wide Area Trunking - Talkgroup Call

#### 1. DESCRIPTION

The Talkgroup is the primary level of organization for communications on a trunked radio system. Radios with Talkgroup call capability will be able to communicate with other members of the same Talkgroup. This provides the effect of a private channel down to the Talkgroup level.

This exercise will demonstrate that a Talkgroup transmission initiated by a radio user will only be heard by system users, which have, the same Talkgroup selected. As with other types of calls, Talkgroup calls can take place from anywhere in the system.

#### SETUP

RADIO-1 – TALKGROUP 1  
RADIO-1 – LMR SITE 1

RADIO-2 –TALKGROUP 1  
RADIO-2 – BROADBAND SITE 2

RADIO-3 - TALKGROUP 2  
RADIO-3 - LMR SITE 1

RADIO-4 - TALKGROUP 2  
RADIO-4 - BROADBAND SITE 2

#### VERSION #1.010

#### 2. Demonstration

- Step 1. Initiate a Wide Area Call with RADIO-1 in TALKGROUP 1.
- Step 2. Observe that only RADIO-2 will be able to monitor and respond to the call.
- Step 3. Initiate a Wide Area Call with RADIO-3 in TALKGROUP 2.
- Step 4. Observe that only RADIO-4 will be able to monitor and respond the call.



## SmartConnect

### 3.7.2 SmartConnect - Wide Area Trunking - Talkgroup Patch - Secure

#### 1. DESCRIPTION

Talkgroup Patch allows a dispatcher to merge several talkgroups together on one voice channel to participate in a single conversation. This can be used for situations involving two or more talkgroups that need to communicate with each other. Using the Patch feature, the console operator can talk and listen to all of the selected talkgroups grouped; in addition, the members of the individual talkgroups can also talk or listen to members of other talkgroups. Patched talkgroups can communicate with the console dispatcher and other members of different talkgroups because of the "supergroup" nature of the Patch feature.

#### SETUP

RADIO-1 - TALKGROUP 1 (Secure TX Mode)

RADIO-2 - TALKGROUP 2 (Secure TX Mode)

RADIO-3 - TALKGROUP 1 (No secure keys loaded)

RADIO-4 - TALKGROUP 2 (Clear TX Mode with keys loaded)

CONSOLE-1 - TALKGROUP 1 and TALKGROUP 2 (Secure TX Mode)

#### Note:

- All 4 Radios must have the same home zone.
- Execute this demonstration with all radios on the broadband site.

#### VERSION #1.010

#### 2. Demonstration

- Step 1. Using CONSOLE-1 create a secure patch between TALKGROUP 1 and TALKGROUP 2.
- Step 2. Initiate a patch call from CONSOLE-1.
- Step 3. Verify RADIO-1, RADIO-2 and RADIO-4 can monitor the call.
- Step 4. Initiate a talkgroup call on TALKGROUP 1 from RADIO-1.
- Step 5. Observe that all radios are able to hear RADIO-1 except RADIO-3.
- Step 6. Dissolve the patch.

## 3.8 VIQI VIRTUAL PARTNER

### 3.8.1 VIQI Virtual Partner - Search lookup

#### 1. DESCRIPTION

The ViQi V P Search lookup initiates a talkgroup call from a Radio user to a Virtual Assistant in the MSI Government Cloud. An unique talkgroup dedicated for Virtual Partner services is assigned for the duration of the call.

The feature utilizes the WAVE “talkgroup channels” to connect with ASTRO P25 Talkgroups via ISSI. The Astro P25 System sees WAVE as a foreign system.

This exercise will demonstrate that a radio user will be able to initiate a Virtual Partner request and request for a search lookup with the ViQi Virtual Partner bot. The Radio user will be able to hear responses from the bot on the assigned talkgroup. The conversation between the radio user and the bot will be heard by ASTRO 25 System dispatch operators, who have the Virtual Partner talkgroups selected on their console operator positions.

#### SETUP

Radio-1 - SITE 1 – TALKGROUP100  
Radio-2 - ITE 1 – TALKGROUP100  
CONSOLE-1 - TALKGROUP 1, TALKGROUP 3,  
TALKGROUP 4, TALKGROUP 2  
(TALKGROUPS 1, 2, 3 & 4 are provisioned on the ASTRO system as VP talkgroups)

WAVE 5000 Management Console –  
TALKGROUP1, TALKGROUP2, TALKGROUP3,  
TALKGROUP4 (TALKGROUPS 1,2,3 & 4 are  
programmed on WAVE 5000 Management console  
as WAVE CHANNELS and associated with  
corresponding LMR TALKGROUPS 1, 2, 3 & 4  
respectively)

LMR Interop Agent – TALKGROUP1,  
TALKGROUP2, TALKGROUP3, TALKGROUP4

(LMR Interop Agent is enabled to monitor TALKGROUPS 1-4)

This exercise requires ZoneWatch feature.

Note 1 : ViQi Virtual Partner cloud services must be connected via Internet and provisioned for correct operations.

Note 2: ViQi Virtual partner capabilities are demonstration capable using SmartConnect feature.

#### VERSION #1.000



## 2. Demonstration

- Step 1. Initiate a ViQi Virtual Partner call from Radio-1. Verify Radio-1 unit display reflects “ViQi V P” sub-mode.
- Step 2. Verify via ZoneWatch that Radio-1 sends in a Virtual Partner request and the call request is converted to Intersystem call.
- Step 3. Verify a talk permit tone is heard on Radio-1 and a search lookup can be requested (Request should be one of Driver’s licence, License plate or Vehicle Identification number).
- Step 4. Request Bot to search for “State Driver’s license, License Number”. Use military phonetic alphabet for any letters. Listen for response from Bot.  
Here is an example of a conversation flow:  
Radio-1 : “New York driver’s license Hotel 80142431”  
Bot: “New York driver’s license Hotel 80142431, is that correct?”  
Radio-1 : “Yes”  
Bot: “Searching ”
- Step 5. Verify in ZoneWatch that Radio-1 receives traffic from Bot and then reverts to TALKGROUP100 at the end of conversation.
- Step 6. Verify PTT activity appears and audio between Radio-1 and Bot is heard on Console.
- Step 7. Verify Radio-2 is not receiving the conversation between Radio-1 and the Virtual Assistant.
- Step 8. Execute Steps 1-6 with Radio-2 and verify a new talkgroup is assigned by the system for the conversation with Bot.

## VIQI Virtual Partner

### 3.8.2 VIQI VIRTUAL PARTNER - Search result

#### 1. DESCRIPTION

The availability of ViQi V P Search results are notified to the Radio user. The radio user can then initiate a bot conversation with the Virtual Assistant to obtain details.

The feature utilizes the WAVE “talkgroup channels” to connect with ASTRO P25 Talkgroups via ISSI. The Astro P25 System sees WAVE as a foreign system. The feature uses eCADI interface for result notification. The radio user is alerted with a textual and audible alert indicating the result category.

This exercise will demonstrate that a radio user is notified of a result availability for a lookup that was initiated with the ViQi Virtual Partner bot. The Radio user will see text flashing on the radio unit indicating type of result and hear audible tones at the same time.

The Radio user will be able to initiate a ViQi Virtual Partner call to request for results and hear responses from the bot on the assigned talkgroup. The conversation between the radio user and the bot will be heard by ASTRO 25 System dispatch operators, who have the Virtual Partner talkgroups selected on their console operator positions.

#### SETUP

Radio-1 - SITE 1 – TALKGROUP100  
Radio-2 - SITE 1 – TALKGROUP100

CONSOLE-1 - TALKGROUP 1, TALKGROUP 3, TALKGROUP 4, TALKGROUP 2  
(TALKGROUPS 1, 2, 3 & 4 are provisioned on the ASTRO system as VP talkgroups)

WAVE 5000 Management Console –  
TALKGROUP1, TALKGROUP2, TALKGROUP3,  
TALKGROUP4 (TALKGROUPS 1,2,3 & 4 are

programmed on WAVE 5000 Management console as WAVE CHANNELS and associated with corresponding LMR TALKGROUPS 1, 2, 3 & 4 respectively)

LMR Interop Agent – TALKGROUP1, TALKGROUP2, TALKGROUP3, TALKGROUP4 (LMR Interop Agent is enabled to monitor TALKGROUPS 1-4)

This exercise requires ZoneWatch for verification.

Note: ViQi Virtual Partner cloud services must be connected via Internet and provisioned for correct operations.

#### VERSION #1.000

## 2. Demonstration

- Step 1. Verify a “Hot Hot” text is displayed on the Radio-1 within 5 mins of the previous test case execution. A sound is heard at the Radio-1 speaker at the same time. Verify via ZoneWatch that the ASTRO system sends a VP Command notification to Radio-1 for the alert.
- Step 2. Initiate a ViQi Virtual Partner call from Radio-1. Verify a talk permit tone is at the Radio-1 speaker and result details can be requested.
- Step 3. Example conversation flow:  
Radio-1 : “Play results”  
Bot: “Criminal records found. Arrest warranted. Request for more details or say Complete to end the call ”  
Radio-1 : “More details”  
Bot: “Driver’s license revoked ”  
Radio-1 : “OK done”
- Step 4. Verify PTT activity appears and audio between Radio-1 and Bot is heard on Console-1.
- Step 5. Verify that the CONSOLE-1 or CONSOLE-2 shows PTT activity on the assigned talkgroup and the conversation between Radio-1 and the bot is heard at the select speaker.

## 3.9 SMART MESSAGING SOLUTION

### 3.9.1 Logon Name Messaging (APX NEXT to APX NEXT Provisioned)

#### 1. DESCRIPTION

Logging onto an APX NEXT subscriber unit and allows addressing of text messages to a name rather than to a device identifier (ID). Using log on names, the sender of the message is identified by name rather than by device ID. This exercise will demonstrate the message from a radio to another radio with a provisioned logon name.

#### SETUP

Equipment setup  
APX NEXT-1 Logged on as "name1"  
APX NEXT-2 Logged on as "name2"

#### VERSION #1.030

#### 2. Demonstration

- Step 1. Compose a text message on APX NEXT-1 selecting "APX NEXT-2" from the Data Users List as the address.
- Step 2. Send the text message from APX NEXT-1 to "APX NEXT-2" [PTT]
- Step 3. Verify APX NEXT-2 receives the message.
- Step 4. Verify APX NEXT-2 message shows from "name1"



SECTION 4

# EQUIPMENT LIST

This section lists the equipment necessary for the proposed solution.

SUB SYS	BLOCK	QTY	NOMENCLATURE	DESCRIPTION
KMF	KMF	1	T8749	ASTRO KEY MANAGEMENT FACILITY
KMF	KMF	1	ZA01180AA	ADD: KMF SERVER AND WEB CLIENT SW
KMF	KMF	1	CA03651AA	ADD: 15,000 CAPACITY
KMF	KMF	1	T8698	KMF DL360 G10 SERVER
KMF	KMF	1	T7885	MCAFFEE WINDOWS AV CLIENT
KMF	KMF	1	DLN8034	WEB KMF REDUNDANCY SW
KMF	KMF	1	T8698	KMF DL360 G10 SERVER
KMF	KMF	1	T7885	MCAFFEE WINDOWS AV CLIENT
KMF	CRYPTR	1	SQM01SUM0222	KMF CRYPTR
KMF	CRYPTR	1	CA00147AG	ADD: BASIC SOFTWARE OPTION
KMF	CRYPTR	1	CA00182AV	ADD: AES 256 ENCRYPTION KIT
KMF	CRYPTR	1	CA02066AA	AC Line Cord, North America
KMF	CRYPTR	1	SQM01SUM0222	KMF CRYPTR
KMF	CRYPTR	1	CA00147AG	ADD: BASIC SOFTWARE OPTION
KMF	CRYPTR	1	CA00182AV	ADD: AES 256 ENCRYPTION KIT
KMF	CRYPTR	1	CA02066AA	AC Line Cord, North America
KMF	KMF	2	DSPSA1U1EE	RUGGED USB CLIENT TO ETHERNET ADAPT
KMF	KMF	2	25-108022-04R	CABLE,CBL:MC65/MC55 USB CHRGING CBL
KMF	CRYPTR	2	TKN9285	RACK MOUNT KIT FOR CRYPTR II
KMF	KMF	2	DSRMP615A	SPD, TYPE 3, 120V RACK MOUNT, 15A P
CONSOLES	OP_POS_LIC	182	BLN1302	OVER THE ETHERNET KEYING (OTEK) OPE
CONSOLES	OP_POS_LIC	182	BLN1304	SECURE OPERATION FIELD-ADD LICENSE
CONSOLES	OP_POS_LIC	1	T8063	MCC 7500 SECURE VPM ALGORITHM UPGRA
CONSOLES	OP_POS_LIC	100	CA00182AB	ADD: AES ALGORITHM
CONSOLES	OP_POS_LIC	1	T8063	MCC 7500 SECURE VPM ALGORITHM UPGRA
CONSOLES	OP_POS_LIC	82	CA00182AB	ADD: AES ALGORITHM
KVL4000	KVL4000	1	T7586	KVL 4000 FLASHPORT UPGRADE
KVL4000	KVL4000	1	CA02010AA	ENH: KVL RADIO AUTHENTICATION UPGRA
KVL4000	KVL4000	1	CA01639AA	ADD: AES ENCRYPTION
KVL4000	KVL4000	1	CA01635AA	ENH: SW UPGRADE TO CURRENT ASTRO 25
KVL4000	KVL4000	1	T7586	KVL 4000 FLASHPORT UPGRADE
KVL4000	KVL4000	1	CA02010AA	ENH: KVL RADIO AUTHENTICATION UPGRA
KVL4000	KVL4000	1	CA01639AA	ADD: AES ENCRYPTION
KVL4000	KVL4000	1	CA01635AA	ENH: SW UPGRADE TO CURRENT ASTRO 25
KVL4000	KVL4000	1	T7586	KVL 4000 FLASHPORT UPGRADE
KVL4000	KVL4000	1	CA02010AA	ENH: KVL RADIO AUTHENTICATION UPGRA
KVL4000	KVL4000	1	CA01639AA	ADD: AES ENCRYPTION
KVL4000	KVL4000	1	CA01635AA	ENH: SW UPGRADE TO CURRENT ASTRO 25
KMF	CRYPTR	2	TKN8531C	CABLE FOR RNC, DIU MGE
SPARE	CRYPTR	1	SQM01SUM0222	KMF CRYPTR



SUB SYS	BLOCK	QTY	NOMENCLATURE	DESCRIPTION
SPARE	CRYPTR	1	CA00147AG	ADD: BASIC SOFTWARE OPTION
SPARE	CRYPTR	1	CA00182AV	ADD: AES 256 ENCRYPTION KIT
SPARE	CRYPTR	1	CA02066AA	AC Line Cord, North America
APX Application Services	SMART CONNECT	10	SSV01S01663A	APX SMART CONNECT
APX Application Services	VIQI	10	SSV01S01662A	VIQI VIRTUAL PARTNER-APX
APX Application Services	VIQI	1	SSV01S01943A	VIQI ASTRO INTEROP
APX Application Services	CLOUD	1	DQPCDWQ99955916	CLOUD ANCHOR SERVER
APX Application Services	CLOUD	1	DQHPPNQ0231212701	CLOUD ANCHOR VMWARE ESSENTIALS
APX Application Services	CLOUD	1	DQHPPNQ01714398	CLOUD ANCHOR SERVER 5YR MAINTENANCE
APX Application Services	CAD	1	TT3277A	PREMIERONE MICROSOFT SQL SVR STD RUNTIME 2017 4 CORE BASE LIC
CRITICAL CONNECT	WAVE	1	ISV00S01915A	UNIFIED COMMUNICATIONS DELIVERY SERVICES
CRITICAL CONNECT	WAVE	10	SSV00S02078A	WAVE MESSAGING DISPATCH
CRITICAL CONNECT	WAVE	1	SSV00S02209A	WAVE PTX SAFEGUARD MULTI-ROLE CLIENT
CRITICAL CONNECT	WAVE	10	SSV00S01898A	WAVE PTX
CRITICAL CONNECT	WAVE	50	SSV00S02054A	DATA INTRA AGENCY
COMMANDCENTRAL AWARE	LOCATION	1	ISV00S01852A	SITUATIONAL AWARENESS DELIVERY SERVICES
COMMANDCENTRAL AWARE	LOCATION	1	SSV00S01684A	LOCATION SERVICES
COMMANDCENTRAL AWARE	AWARE	1	SSV00S02384A	AWARE STANDARD
COMMANDCENTRAL AWARE	CLOUD	1	DQHPPNQ0231212701	CLOUD ANCHOR VMWARE ESSENTIALS
COMMANDCENTRAL AWARE	CLOUD	1	DQPCDWQ99955916	CLOUD ANCHOR SERVER
COMMANDCENTRAL AWARE	CLOUD	1	DQHPPNQ01714398	CLOUD ANCHOR SERVER 5YR MAINTENANCE
COMMANDCENTRAL AWARE	LICENSES	10	UA00640AA	IMW LICENSE BUNDLE
COMMANDCENTRAL AWARE	SERVICES	1	ISV00S02927A	CONSULTING SERVICES: AWARE
SMARTCONN	LICENSE	1	HKVN4797	LICENSE,SMARTCONNECT ENABLEMENT
SMARTCONN	FIREWALL	1	T8586	FORTINET FIREWALL APPLIANCE
SMARTCONN	FLASH	1	T8553	DIGITAL SMARTZONE
SMARTCONN	FLASH	10	QA07682	ADD: SMARTCONNECT
SMARTCONN	FLASH	10	QA09001AC	ENH: WI-FI CAPABILITY FLP
VIQI	LICENSE	1	HKVN4804	LICENSE,VIRTUAL PARTNER ENABLEMENT
VIQI	LICENSE	1	TT3142	NEW WAVE SYSTEM
VIQI	LICENSE	1	TT06266AA	SOFTWARE,WAVE SERVER LICENSING
VIQI	LICENSE	1	TT06172AA	ARUS - 1 YEAR - WAVE SERVER LICENSING
VIQI	SERVER	1	SQM01SUM0284C	WAVE 5000 SERVER

SUB SYS	BLOCK	QTY	NOMENCLATURE	DESCRIPTION
VIQI	SERVER	1	T7885	MCAFFEE WINDOWS AV CLIENT
VIQI	SERVER	1	DQVMAVS7SPRT	PRODUCTION SUPPORT/SUBSCRIPTION FOR VMWARE VSPHERE 7 STANDARD FOR 1
VIQI	SERVER	1	SQM01SUM0292	CRYPTR
VIQI	SERVER	1	CA02066AA	AC Line Cord, North America
VIQI	SERVER	1	CA02932AA	ADD:ASTRO AES 256 ENCRYPTION KIT
VIQI	SERVER	1	CA02933AA	ADD: ASTRO AES 256, DES-OFB, ADP ENCRYPTION KIT
VIQI	SERVER	1	CA02934AA	ADD: OTEK
VIQI	SERVER	1	CA02954AA	ADD: SECURE OPERATION
VIQI	SERVER	1	TKN9285	RACK MOUNT KIT FOR CRYPTR II
VIQI	CLOUD	1	DQFNPCLOUDANCHOR	FORTIGATE 60E FOR CLOUD ANCHOR
VIQI	CLOUD	1	DQFNPCLOUDANCMANT	FORTIGATE 60E MAINTENANCE FOR CLOUD ANCHOR
SMARTMSG	LICENSE	1	HKVN4833A	LICENSE,SMARTMESSAGING ENABLEMENT
SMARTMSG	LICENSE	1	T8543	WIN 2016 SERVER LICENSES
SMARTLOCATE	LICENSE	1	HKVN4866	LICENSE,SMARTLOCATE ENABLEMENT
SMARTLOCATE	LICENSE	1	T8543	WIN 2016 SERVER LICENSES
SMARTLOCATE	CLOUD	1	DQPCDWQ99955916	CLOUD ANCHOR SERVER
SMARTLOCATE	CLOUD	1	DQHPPNQ0231212701	CLOUD ANCHOR VMWARE ESSENTIALS
SMARTLOCATE	CLOUD	1	DQHPPNQ01714398	CLOUD ANCHOR SERVER 5YR MAINTENANCE
SMARTLOCATE	CLOUD	1	TT3277	PREMIERONE MICROSOFT SQL SVR STD RUNTIME 2017 4 CORE BASE LIC
SMARTLOCATE	LICENSE	1	T8108	UNS RESOURCE EXPANSIONS
SMARTLOCATE	LICENSE	1	CA03096AA	ADD: ADDITIONAL RESOURCES TO AN EXISTING SERVICE
SMARTLOCATE	LICENSE	1	UA00010AA	ADD: 0-100 RESOURCES FOR LOCATION
SMARTLOCATE	LICENSE	1	UA00058AA	ADD: 0-100 RESOURCES FOR PRESENCE



SECTION 5

# TRAINING PLAN

## 5.1 TRAINING OVERVIEW

Partnering with Motorola Solutions will enable EBRCSA to build personnel competency and maximize return on investment.

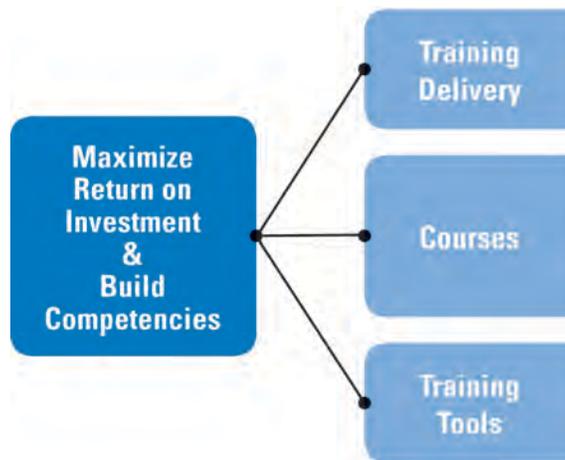
Effective training ensures successful implementation and use of your communications system by all personnel for the life of the system. The training plan furnished to EBRCSA is comprised of targeted coursework developed and delivered by our expert instructors. This plan, included below, will effectively provide EBRCSA's personnel with a comprehensive understanding of the proposed system and user equipment.

We will collaborate with EBRCSA to tailor a final training plan to enable EBRCSA's organization to operate, configure, and manage the proposed solution effectively and efficiently.



## 5.2 MOTOROLA SOLUTIONS TRAINING

Motorola Solutions provides an expanding portfolio of training delivery methods, tools, and courses to support the training needs of our customers. The figure below shows the elements of our training methodology that qualify us as the leader in the communications training industry.



**Figure 1: Build the competencies of EBRCSA's personnel and maximize your return on investment with Motorola Solutions' expanding portfolio of training delivery methods, tools, and courses.**

## 5.2.1 Training Delivery

### Training Methods

Motorola Solutions’ training experience and expertise enables our customers to gain the training they need to use during critical times in a variety of methods. As shown in the figure below, we offer four interactive methods of training: Online Self-Paced, Virtual Instructor-Led, Instructor-Led, and our *new* Integrated Training Environment.



**Figure -1: Motorola Solutions offers a variety of interactive training methods that cater to different learning techniques, allowing more effective ways to give personnel the skills they need.**

These training approaches ensure our customers receive the understanding they need for the practical aspects of their jobs.

### Delivery Options

#### Field

Field class delivery is “tailored” to the customer’s specific system. We are providing classes which are not offered as standard “Open Resident” classes at our training facilities. The students benefit from working on their own systems, at their home location and within their schedules.

#### Motorola Facility

Resident classes are open to all Motorola customers, seating is based on availability, and participant guides and required pre-work when applicable are included in the tuition. These courses are comprehensive and are not tailored to any one customer’s system. Students benefit from other students’ experiences and are allowed to take systems out of service. These courses provide optimal “hands-on” training.

## **Motorola Facility Closed Sessions-Customer Specific**

Special Resident classes are closed sessions for a particular Motorola Solutions customer. The customer is essentially renting the classroom. These courses are tailored to the customer's system as much as possible. The instructor will require the customer's system diagrams prior to the class taking place. The students will receive their ASTRO 25 IV&D manuals on CD-ROM and hard copy participant guides. Class manuals, participant guides, and required pre-work are included in the pricing of the class per student. The students are allowed to take systems out of service, which provides optimal "hands-on" training.

### **Motorola Solutions Instructors**

We have approximately 40 instructor resources distributed across North America. These instructors are available to train customers in our Technical Training Center located in Schaumburg, Illinois, while specific training courses are available at our facility in Plantation, Florida. Training can also be delivered directly on-site at customer locations. All instructors undergo an Instructional Skills and Technical Knowledge Program, which is a globally-recognized training and instructor assessment program.

### **Consultative Services**

Motorola Solutions provides consultative services for our customers, which includes personalized training plans and other training-related services. Our dedicated training consultant team works with our customers and Motorola Solutions account teams to identify and meet the training needs of technical, administrative end users, and other audiences.

## **5.2.2 Training Courses**

Motorola Solutions offers a wide range of training courses to help our customers improve their proficiency with our expanding portfolio and get the most from their training system.

Our specialized courses/curriculums are designed for our customers' role. Whether they are an administrator, technician or user, Motorola Solutions makes sure our customers are equipped with foundational and advanced skills.

General overviews of product and/or solution training offered are listed below:

### **Foundational Radio and Networking Training**

Foundational Radio and Networking training provides new hires or staff from different skilled backgrounds fundamental knowledge. Some of these courses are online/self-paced while others are instructor led. Some topics include: Radio System Basics, Basic Networking, Communication System Concepts, Networking Essentials and Applied Networking. This allows Motorola Solutions to offer training before installation, during installation and after your solution is operational.

### **ASTRO 25 Infrastructure Training Courses**

ASTRO 25 Infrastructure Training provides participants with a full curriculum that will enable them to maintain/service the new solution, and will give them the skills required to manage and operate the solution to obtain its fullest potential and capabilities.



## **ASTRO 25 Patch Management Training Course**

ASTRO 25 Patch Management Training provides ASTRO 25 Land Mobile Radio (LMR) system administrators the information needed to access and patch their radio network infrastructure, update antivirus definitions, and review log files.

## **Console Training Courses**

Console Training provides participants with a curriculum that will enable them to obtain a high-level understanding of the system configuration, general console operation, how to perform basic tasks, operating procedures for specific features, and the knowledge and skills necessary to manage and maintain the system.

## **Mobile and Portable Radio Training Courses**

Mobile and Portable Radio Training provides participants with an introduction to the radio, the knowledge and skills necessary to perform basic radio operation, common operational tasks, operating procedures for specific features of the radio, and technical programming and maintenance of radios.

## **MOTOTRBO Training Courses**

MOTOTRBO Training provides participants with a full curriculum that will enable them to maintain/service the new solution, and will give them the skills required to manage and operate the solution to obtain its fullest potential and capabilities.

## **CallWorks Training Courses**

CallWorks Training provides participants with an overview of the components and functionality of the main application, operation, troubleshooting, a high-level understanding of the software, and configuration and maintenance of components of the CallWorks solution.

## **PremierOne Training Courses**

PremierOne Training provides participants with sufficient knowledge of the PremierOne solution and its tools, giving them the skills necessary to operate and maintain the PremierOne solution.

## **LTE Training Courses**

LTE Training provides participants a high-level understanding of the Public Safety LTE system and the network elements that comprise the system. Participants will gain knowledge of LTE architecture, signaling, system administration, and applied networking.

## WAVE Training Courses

WAVE Training provides participants with an overview of the WAVE solution. It offers a basic understanding of how WAVE delivers a Radio-over-IP solution; describes features, hardware, and software requirements; how to use applications; and provides instruction in designing, integrating, and troubleshooting the WAVE solution.

### 5.2.3 Training Tools

#### Training Kits

Training kits are essential suitcase equipment, labs and exercises that apply to some of the ASTRO, MOTOTRBO, WAVE and LTE solutions. These kits are used in addition to equipment, in order to prevent solution downtime while training is conducted. As part of specific on-site classes, shown in Table , kits are included and shipped to our customers to allow students an in-depth, hands-on experience.

Table Field Classes Training Kit Availability

Field Classes Training Kit Availability	
Networking Essentials	Server Virtualization
Applied Systems Networking	WAVE Certified Integration Engineer
Domain Controller	MOTOTRBO™ Systems Applied Networking

#### Tracking and Evaluation

All customers training is tracked and evaluated. The Project Manager and training team tracks and records all courses completed through the implementation of the project. Surveys are given to trainees to evaluate the trainers. Feedback is given and placed on our customer shared website.

#### End User Training Kit (EUTK)

The End User Training Kit is a knowledge-transfer tool designed to accelerate learning through customizability. Using the EUTK allows trainers to customize user/operator training to match unique button, feature programming, and displays provided in the system and radio codeplug. These tailored materials are developed by Motorola Solutions trainers using tool kits that allow customer trainers to modify training materials when radio or console features change. Personnel are taught how to maneuver through and tailor the EUTK screens. The tailored selections are saved to an electronic file that the Motorola Solutions training team provides to the customer.

For a more detailed view of the training Motorola Solutions provides, please see our Product and System Technical Training Course Catalog:  
<https://learning.motorolasolutions.com/catalog/56280enus>

## 5.3 PROPOSED TRAINING FOR EBRCSA

In order to achieve the training goals identified by EBRCSA, we propose the following courses.

It is necessary that participants bring their laptop computers for all system administrator and technician classes. Materials will be delivered electronically via USB drives.

### 5.3.1 Self-paced; Online Classes

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
<b>APX SmartConnect Features Training</b> Course #: AST0079 (Self-paced; Online)	Users	1	30 minutes	Self-paced; Online	TBD	TBD
<b>APX NEXT 1<sup>st</sup> Steps</b> Course #: AST0084 (Self-paced; Online)	Users & Technicians	1	30 minutes	Self-paced; Online	TBD	TBD
<b>APX NEXT Overview</b> Course #: AST4002 (Self-paced; Online)	Users	1	1 hour	Self-paced; Online	TBD	TBD
<b>APX NEXT Radio Central and My View Overview</b> Course #: AST4004 (Self-paced; Online)	Technicians	1	1 hour	Self-paced; Online	Prior to the VILT Workshop	Up to 12

### 5.3.2 Technician Training

Course Title	Target Audience	Sessions	Duration	Location	Date	Participants
<b>APX NEXT Radio Central and My View Workshop</b> Course #: AST4005 (Online; Instructor-led)	Technicians	1	Approx. 4 hours a day for 3 days	Online; Instructor-led	Prior to maintaining	Up to 12

### 5.3.3 Course Descriptions for EBRCSA

Course descriptions for EBRCSA are included on the following pages.

### 5.3.3.1 APX SmartConnect Feature Training

#### AST0079

<b>Course Synopsis and Objectives:</b>	This course will walk you through what the SmartConnect Feature is about. You will learn how to operate it and understand the process of how it works.  By the end of this course you will be able to: <ul style="list-style-type: none"> <li>▪ Describe the SmartConnect Feature</li> <li>▪ Understand the use case of the Feature</li> <li>▪ Operate the SmartConnect Feature</li> <li>▪ Configure SmartConnect Feature</li> </ul>
<b>Delivery Method:</b>	OLT – Online Training
<b>Duration:</b>	0.5 hours
<b>Participants:</b>	End users that have subscribed to the SmartConnect Feature or users that want to learn more about the Feature
<b>Class Size:</b>	Class Size may vary by region
<b>Prerequisite:</b>	None
<b>Curriculum:</b>	Course Modules: <ul style="list-style-type: none"> <li>▪ Introduction to SmartConnect</li> <li>▪ Operating SmartConnect</li> <li>▪ Tools and Resources</li> </ul>

### 5.3.3.2 APX NEXT First Steps

#### AST0084

<b>Course Synopsis and Objectives:</b>	This training is designed to provide support in implementing and initial use of APX NEXT devices and features.  After completing this course you will be able to: <ul style="list-style-type: none"> <li>▪ Successfully assemble APX NEXT for the first time.</li> <li>▪ Power up the APX NEXT without any assistance.</li> <li>▪ Successfully run diagnostic tests on your device.</li> </ul>
<b>Delivery Method:</b>	OLT (On-Line Training)
<b>Duration:</b>	0.5 hours
<b>Participants:</b>	This training is intended to support users and technicians upon receiving APX NEXT devices.
<b>Class Size:</b>	Up to 12 (Class Size may vary by region)
<b>Prerequisite:</b>	No requisite knowledge required.
<b>Curriculum:</b>	N/A

### 5.3.3.3 APX NEXT Overview

#### AST4002

<b>Course Synopsis and Objectives:</b>	<p>This course provides an overview of the APX NEXT radio features and capabilities. We will help you understand how they work, when they are useful, and how they impact your day-to-day tasks.</p> <p>By the end of this course you will be able to:</p> <ul style="list-style-type: none"> <li>▪ Describe the functions and capabilities of the APX NEXT radio</li> <li>▪ List the features supported on the APX NEXT radio.</li> <li>▪ Describe the new application services available on the APX NEXT radio.</li> </ul>
<b>Delivery Method:</b>	OLT – Online Training
<b>Duration:</b>	1 hour
<b>Participants:</b>	This course is intended for individuals who need to get an overview of the APX NEXT Radio.
<b>Class Size:</b>	Class Size may vary by region
<b>Prerequisite:</b>	None
<b>Curriculum:</b>	<p>Course Modules:</p> <ul style="list-style-type: none"> <li>▪ Module 1: APX NEXT Radio and Accessories</li> <li>▪ Module 2: APX NEXT Features and Capabilities</li> <li>▪ Module 3: Software Releases</li> </ul>

### 5.3.3.4 APX NEXT RadioCentral and MyView Overview

#### AST4004

<b>Course Synopsis and Objectives:</b>	<p>This course will provide an introduction to using the MyView Portal and the RadioCentral Client to manage the basic setup and configuration of the features for your APX NEXT devices.</p> <p>After completing this training course you will be able to:</p> <ul style="list-style-type: none"> <li>▪ Navigate through the RadioCentral Client to find the editing tools and standard views</li> <li>▪ Navigate through the MyView Portal to find the editing and administrative tools</li> <li>▪ Successfully complete the configuration workflows covered in this course</li> </ul>
<b>Delivery Method:</b>	OLT – Online Training
<b>Duration:</b>	1 hour
<b>Participants:</b>	This course is intended for individuals who need to configure, maintain, and monitor the APX NEXT Radio.
<b>Class Size:</b>	Class Size may vary by region
<b>Prerequisite:</b>	None
<b>Curriculum:</b>	<p>Course Modules:</p> <ul style="list-style-type: none"> <li>▪ Module 1 Solution Overview</li> <li>▪ Module 2 MyView Basic Navigation</li> <li>▪ Module 3 MyView Entitlements View</li> <li>▪ Module 4 MyView Device Management View</li> <li>▪ Module 5 MyView Administration View</li> <li>▪ Module 6 RadioCentral Basic Navigation</li> <li>▪ Module 7 RadioCentral Managing Groups</li> <li>▪ Module 8 RadioCentral Managing Sets and Configurations</li> <li>▪ Module 9 RadioCentral Scheduling Jobs</li> <li>▪ Module 10 RadioCentral Importing New Licenses</li> <li>▪ Module 11 RadioCentral Managing Radio Firmware</li> <li>▪ Module 12 RadioCentral Configuring ViQi</li> <li>▪ Module 13 RadioCentral Configuring SmartLocate</li> <li>▪ Module 14 Configuring SmartConnect</li> </ul>

### 5.3.3.5 APX NEXT RadioCentral and MyView Workshop

#### AST4005

<b>Course Synopsis and Objectives:</b>	<p>This course provides participants with experience in the management of APX NEXT devices using the Radio Central application. Participants will learn configuration settings and feature capabilities, updating configurations to devices, and general management of APX NEXT Devices.</p> <p>After completing this course, the student will be able to:</p> <ul style="list-style-type: none"> <li>▪ Understand the relationship between MyView And Radio Central and its impact on radio management.</li> <li>▪ Configure APX NEXT Devices using Radio Central.</li> <li>▪ Update devices over the air using Radio Central.</li> <li>▪ Understand impacts of configuration changes to radio operation.</li> </ul>
<b>Delivery Method:</b>	VILT (Virtual Instructor-Led Training)
<b>Duration:</b>	12.5 hours
<b>Participants:</b>	System Managers and Technical staff responsible for managing APX NEXT devices.
<b>Class Size:</b>	Up to 12 (Class Size may vary by region)
<b>Prerequisite:</b>	No requisite knowledge required.
<b>Curriculum:</b>	N/A

SECTION 6

# PROJECT SCHEDULE

A preliminary Project Schedule is included on the pages that follow.



EBRCSA AES Encryption Upgrade of Consoles										
ID	Task Name	Duration	Start	Finish	Gantt Chart					
					2nd Hal Dtr	1st Hal Dtr	2nd Hal Dtr	1st Hal Dtr	2nd Hal Dtr	1st Hal Dtr
1	<b>Implementation Project</b>	506d	Mon 11/29/21	Mon 11/6/23	[Gantt Chart]					
2	<b>Contract</b>	35d	Mon 11/29/21	Fri 1/14/22	[Gantt Chart]					
3	Contract Award	0d	Mon 11/29/21	Mon 11/29/21	[Gantt Chart]					
4	Contract Administration	5d	Mon 12/13/21	Fri 12/17/21	[Gantt Chart]					
5	Project Kick-Off	10d	Mon 1/3/22	Fri 1/14/22	[Gantt Chart]					
6	<b>Contract Design Review</b>	20d	Mon 1/17/22	Fri 2/11/22	[Gantt Chart]					
7	Review Contract Design	20d	Mon 1/17/22	Fri 2/11/22	[Gantt Chart]					
8	Design Approval	0d	Fri 2/11/22	Fri 2/11/22	[Gantt Chart]					
9	<b>Order Processing</b>	80d	Mon 2/14/22	Fri 6/3/22	[Gantt Chart]					
10	Process Equipment list	10d	Mon 2/14/22	Fri 2/25/22	[Gantt Chart]					
11	Order Bridged	0d	Fri 2/25/22	Fri 2/25/22	[Gantt Chart]					
12	<b>Manufacturing and Staging</b>	70d	Mon 2/28/22	Fri 6/3/22	[Gantt Chart]					
13	Manufacture Motorola FNE	60d	Mon 2/28/22	Fri 5/20/22	[Gantt Chart]					
14	Ship Equipment to Field	10d	Mon 5/23/22	Fri 6/3/22	[Gantt Chart]					
15	<b>Installation</b>	371d	Mon 2/14/22	Mon 7/17/23	[Gantt Chart]					
16	Perform R-56 Audit	5d	Mon 2/14/22	Fri 2/18/22	[Gantt Chart]					
17	Link Verification	5d	Mon 5/30/22	Fri 6/3/22	[Gantt Chart]					
18	<b>Console Upgrades and Server Installations</b>	273d	Mon 6/6/22	Wed 6/21/23	[Gantt Chart]					
19	Receive and Inventory @ Customer Location	10d	Mon 6/6/22	Fri 6/17/22	[Gantt Chart]					
20	Upgrade KVL4000s	5d	Mon 6/20/22	Fri 6/24/22	[Gantt Chart]					
21	Install KMF and AWARE Servers	10d	Mon 6/27/22	Fri 7/8/22	[Gantt Chart]					
22	Program KMF and APX NEXT Feature Enablement	40d	Mon 7/11/22	Fri 9/2/22	[Gantt Chart]					
23	Perform ST Training for Radio Shops	8d	Mon 9/5/22	Wed 9/14/22	[Gantt Chart]					
24	<b>Install Console Upgrades &lt;Customer Responsibility&gt;</b>	200d	Thu 9/15/22	Wed 6/21/23	[Gantt Chart]					
25	Installation Acceptance and Upgrade Completion	0d	Wed 6/21/23	Wed 6/21/23	[Gantt Chart]					
26	<b>System Optimization</b>	15d	Tue 6/27/23	Mon 7/17/23	[Gantt Chart]					
27	Optimize System FNE	15d	Tue 6/27/23	Mon 7/17/23	[Gantt Chart]					
28	Optimization Complete	0d	Mon 7/17/23	Mon 7/17/23	[Gantt Chart]					
29	<b>Acceptance Testing and Trial Demonstration</b>	50d	Tue 7/18/23	Mon 9/25/23	[Gantt Chart]					
30	Perform System Testing and APX NEXT Feature Demo	40d	Tue 7/25/23	Mon 9/18/23	[Gantt Chart]					
31	SATP Acceptance	0d	Mon 9/18/23	Mon 9/18/23	[Gantt Chart]					
32	<b>Training</b>	5d	Tue 7/18/23	Mon 7/24/23	[Gantt Chart]					
33	Perform Training	5d	Tue 7/18/23	Mon 7/24/23	[Gantt Chart]					

EBRCSA AES Encryption Upgrade of Consoles											
ID	Task Name	Duration	Start	Finish							
					2nd Ha Qtr	1st Half Qtr	2nd Ha Qtr	1st Half Qtr	2nd Ha Qtr	1st Half Qtr	
34	Training Complete	0d	Mon 7/24/23	Mon 7/24/23							
35	<b>Cutover</b>	5d	Tue 9/19/23	Mon 9/25/23							
36	Cut-Over	5d	Tue 9/19/23	Mon 9/25/23							
37	<b>Finalize</b>	30d	Tue 9/26/23	Mon 11/6/23							
38	Resolve Punchlist	20d	Tue 9/26/23	Mon 10/23/23							
39	Finalize Documentation	10d	Tue 10/24/23	Mon 11/6/23							
40	Transition Service/PTC	2d	Tue 10/24/23	Wed 10/25/23							
41	Final Acceptance	0d	Mon 11/6/23	Mon 11/6/23							

SECTION 7

# PRICING

## 7.1 PRICING SUMMARY

Motorola is pleased to provide the following equipment and services to East Bay Regional Communications System Authority:

Description	Quantity	Extended Discounted Price
MCC7500 Secure Operation Licenses	182	\$567,840
MCC7500 AES Licenses	182	\$131,440
MCC7500 OTEK Licenses	182	\$585,312
Redundant KMF with AES	1	\$224,092
APX NEXT Features: SmartConnect, ViQi, SmartMessage, SmartLocate and 10 User Licenses	10	\$221,645
<b>Customer Loyalty Discount</b>		<b>-\$221,645</b>
<b>Equipment SUBTOTAL:</b>		<b>\$1,508,684</b>
System Integration Services (KMF and Console upgrades)		\$354,231
System Integration Services (APX Next Features)		\$318,026
<b>Customer Loyalty Discount</b>		<b>-\$318,026</b>
<b>System Integration SUBTOTAL:</b>		<b>\$354,231</b>
<b>Additional System Discount</b>		<b>-\$366,915</b>
10.25% Estimated Sales Tax on Equipment		\$124,183
<b>Total:</b>		<b>\$1,620,183</b>

## 7.2 PAYMENT TERMS

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution and in accordance with the following milestones.

1. 25% of the Contract Price upon Contract Execution.
2. 65% of the Contract Price upon Shipment of Equipment.



3. 5% of the Contract Price upon Installation completion.
4. 5% of the Contract Price upon system test completion by Motorola Solutions.

Overdue invoices will bear simple interest at the rate of ten percent (10%) per annum, unless such rate exceeds the maximum allowed by law, in which case it will be reduced to the maximum allowable rate. Motorola reserves the right to make partial shipments of equipment and to request payment upon shipment of such equipment. In addition, Motorola reserves the right to invoice for installations or civil work completed on a site-by-site basis, when applicable.

SECTION 8

# CONTRACTUAL DOCUMENTATION

This proposal is subject to the terms and conditions of the Communications System Agreement, dated July, 7, 2009, and extended until July 6, 2020, between EBRCSA and Motorola Solutions (the "CSA"). Under Section 3.4 of the CSA, EBRCSA may purchase additional goods and services. Motorola Solutions' proposal is based on the assumption that EBRCSA will use this right under Section 3.4 of the CSA for the proposed transaction, together with the enclosed Subscription Services Addendum. Therefore, EBRCSA may accept the proposal by either issuing a Purchase Order that refers to the CSA and the Motorola Solutions proposal, or by executing a Change Order to the current CSA. If you prefer the latter method, Motorola Solutions will gladly prepare the Change Order document for execution.



SECTION 9

# OUR COMMITMENT

Motorola Solutions creates innovative, mission-critical communication solutions and services that help public safety and commercial customers build safer cities and thriving communities. You can find our products at work in a variety of industries including law enforcement, fire, emergency medical services, national government security, utilities, mining, energy, manufacturing, hospitality, retail, transportation and logistics, education, and public services.

Founded in 1928, Motorola Solutions has a history of innovation that has revolutionized communications. From pioneering mobile communications in the 1930s and making equipment that carried the first words from the moon in 1969, to supporting modern-day emergency response equipment for disaster relief efforts around the world, Motorola Solutions has a global footprint with products that demonstrate its thought leadership.

Throughout its history, Motorola Solutions has transformed innovative ideas into products that connect people to each other and the world around them. Moving forward, the company strives to keep its commitment of make things better and life easier, to make sound recommendations that will guide you in linking your current and future communication needs and objectives with technology's ever-evolving promise.



## SUBSCRIPTION SERVICES ADDENDUM

This Subscription Services Addendum to the Communications System and Services Agreement or other previously executed and currently in force agreement, as applicable (“Primary Agreement”) is entered into between Motorola Solutions, Inc., with offices at 500 W. Monroe Street, Suite 4400, Chicago, IL 60661 (“**Motorola**”) and the entity set forth in the signature block below or in the Primary Agreement (“**Customer**”) (“**SSA**”). Capitalized terms used in this SSA, but not defined herein, will have the meanings set forth in the Primary Agreement.

### 1. Addendum.

**1.1. Scope.** This SSA governs Customer’s purchase of Subscription Services (and, if set forth in an Ordering Document, related Services) from Motorola and provides additional and/or different terms and conditions that govern the sale of Subscription Services. This SSA will be subject to, and governed by, the terms of the Primary Agreement. To the extent there is a conflict or inconsistency between the terms and conditions of the SSA and an associated Ordering Document, the terms and conditions of the Ordering Document will take precedence over the SSA. Additional Subscription Services-specific Addenda or other terms and conditions may apply to certain Subscription Services, where such terms are provided or presented to Customer.

**1.2. Definitions.** Capitalized terms used in this SSA shall have the following meanings:

- 1.2.1. “Authorized Users”** shall mean Customer’s employees, full-time contractors engaged for the purpose of supporting the Subscription Services that are not competitors of Motorola, and the entities (if any) specified in an Ordering Document or otherwise approved by Motorola in writing (email from an authorized Motorola signatory accepted), which may include affiliates or other Customer agencies.
- 1.2.2. “Customer Contact Data”** shall mean data Motorola collects from Customer, its Authorized Users, and their end users for business contact purposes.
- 1.2.3. “Customer Data”** shall mean data, information, and content, including images, text, videos, documents, audio, telemetry and structured data base records, provided by, through, or on behalf of Customer, its Authorized Users, and their end users through the use of the Subscription Services. Customer Data does not include Customer Contact Data, Service Use Data, or information from publicly available sources or other Third-Party Data or Motorola Data;
- 1.2.4. “Customer-Provided Equipment”** shall mean certain components, including equipment and software, not provided by Motorola that may be required for use of the Subscription Services.
- 1.2.5. “Documentation”** shall mean documentation for the Subscription Services, Motorola Software, or data that specifies technical and performance features, capabilities, users, or operation, including training manuals, and other deliverables, such as reports, specifications, designs, plans, drawings, analytics, or other information.
- 1.2.6. “Equipment”** shall mean hardware provided by Motorola.
- 1.2.7. “Feedback”** shall mean comments or information, in oral or written form, given to Motorola by Customer or Authorized Users, including their end users, in connection with or relating to the Products or Services.

- 1.2.8. “**Fees**” shall mean fees and charges applicable to the Subscription Services and set forth in an Ordering Document.
- 1.2.9. “**Motorola Data**” shall mean data owned or licensed by Motorola;
- 1.2.10. “**Ordering Documents**” shall mean statements of work, technical specifications, and other ordering documents setting forth the Subscription Services to be purchased by Customer and provided by Motorola.
- 1.2.11. “**Process**” or “**Processing**” shall mean any operation or set of operations which is performed on personal information or on sets of personal information, whether or not by automated means, such as collection, recording, copying, analyzing, caching, organization, structuring, storage, adaptation, or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction.
- 1.2.12. “**Service Use Data**” shall mean data generated by Customer’s use of the Subscription Services or by Motorola’s support of the Subscription Services, including personal information, location, monitoring and recording activity, product performance and error information, activity logs and date and time of use;
- 1.2.13. “**Subscription Services**” shall mean hosted software-as-a-service provided to Customer, and other software which is either preinstalled on Equipment or installed on Customer-Provided Equipment and licensed to Customer by Motorola on a subscription basis.
- 1.2.14. “**Subscription Software**” shall mean software which is either preinstalled on Equipment or installed on Customer-Provided Equipment and licensed to Customer by Motorola on a subscription basis associated with the Subscription Services.
- 1.2.15. “**Third-Party Data**” shall mean information obtained by Motorola from publicly available sources or its third party content providers and made available to Customer through the Subscription Services.

## 2. **Delivery of Subscription Services.**

**2.1. Delivery.** During the applicable Subscription Term (as defined below), Motorola will provide to Customer the Subscription Services set forth in an Ordering Document, in accordance with the terms of this SSA. Motorola will provide Customer advance notice (which may be provided electronically) of any planned downtime. Delivery will occur upon Customer’s receipt of credentials required for access to the Subscription Services or upon Motorola otherwise providing access to the Subscription Services. If agreed upon in an Ordering Document, Motorola will also provide Services related to such Subscription Services.

**2.2. Modifications.** Motorola may modify the Subscription Services, any associated recurring Services and any related systems so long as their functionality (as described in the applicable Ordering Document) is not materially degraded. Documentation for the Subscription Services may be updated to reflect such modifications. For clarity, new features or enhancements that are added to any Subscription Services may be subject to additional Fees.

**2.3. User Credentials.** If applicable, Motorola will provide Customer with administrative user credentials for the Subscription Services, and Customer will ensure such administrative user credentials are accessed and used only by Customer’s employees with training on their proper use. Customer will protect, and will cause its Authorized Users to protect, the confidentiality and security of all user



credentials, including any administrative user credentials, and maintain user credential validity, including by updating passwords. Customer will be liable for any use of the Subscription Services through such user credential (including through any administrative user credentials), including any changes made to the Subscription Services or issues or user impact arising therefrom. To the extent Motorola provides Services to Customer in order to help resolve issues resulting from changes made to the Subscription Services through user credentials, including through any administrative user credentials, or issues otherwise created by Authorized Users, such Services will be billed to Customer on a time and materials basis, and Customer will pay all invoices in accordance with the payment terms provided herein.

**2.4. Beta Services.** If Motorola makes any beta version of a software application ("**Beta Service**") available to Customer, Customer may choose to use such Beta Service at its own discretion, provided, however, that Customer will use the Beta Service solely for purposes of Customer's evaluation of such Beta Service, and for no other purpose. Customer acknowledges and agrees that all Beta Services are offered "as-is" and without any representations or warranties or other commitments or protections from Motorola. Motorola will determine the duration of the evaluation period for any Beta Service, in its sole discretion, and Motorola may discontinue any Beta Service at any time. Customer acknowledges that Beta Services, by their nature, have not been fully tested and may contain defects or deficiencies.

**2.5. Equipment Title.** Unless Customer is purchasing equipment pursuant to the terms in the Primary Agreement and unless stated differently in this SSA or in the Ordering Documents, title to any Equipment provided to Customer in connection with the Subscription Services remains vested in Motorola at all times. Any sale of equipment pursuant to this SSA will be governed by the terms and conditions set forth in the Primary Agreement.

### **3. Subscription Software License, Restrictions, and Obligations.**

**3.1. Subscription Software License.** Subject to Customer's and its Authorized Users' compliance with this SSA, including payment terms, Motorola hereby grants Customer and its Authorized Users a limited, non-transferable, non-sublicenseable, and non-exclusive license to use the Subscription Software identified in an Ordering Document, and the associated Documentation, solely for Customer's internal business purposes. The foregoing license grant will be limited to use in the territory and to the number of licenses set forth in an Ordering Document (if applicable), and will continue for the applicable Subscription Term. Customer may access, and use the Subscription Software only in Customer's owned or controlled facilities, including any authorized mobile sites; provided, however, that Authorized Users using authorized mobile or handheld devices may also log into and access the Subscription Services remotely from any location. No custom development work will be performed under this Addendum.

**3.2. End User Licenses.** Notwithstanding any provision to the contrary in this SSA, certain Subscription Software is governed by a separate license, EULA, or other agreement, including terms governing third-party software, such as open source software, included in the Subscription Software. Customer will comply, and ensure its Authorized Users comply, with such additional license agreements.

**3.3. Customer Restrictions.** Customers and Authorized Users will comply with the applicable Documentation and the copyright laws of the United States and all other relevant jurisdictions in connection with their use of the Subscription Services. Customer will not, and will not allow others including the Authorized Users, to make the Subscription Software and Subscription Services available for use by unauthorized third parties, including via a commercial rental or sharing arrangement; reverse engineer, disassemble, or reprogram software used to provide the Subscription Software or Subscription Services or any portion thereof to a human-readable form; modify, create derivative works of, or merge the Subscription Software or software used to provide the Subscription Software or Subscription Services with other software; copy, reproduce, distribute, lend, or lease the Subscription Software, Subscription Services or Documentation for or to any third party; take any action that would cause the Subscription

Software, software used to provide the Subscription Services, or Documentation to be placed in the public domain; use the Subscription Software or Subscription Services to compete with Motorola; remove, alter, or obscure, any copyright or other notice; share user credentials (including among Authorized Users); use the Subscription Software or Subscription Services to store or transmit malicious code; or attempt to gain unauthorized access to the Subscription Software, Subscription Services or its related systems or networks.

**3.4. Customer-Provided Equipment.** Customer will be responsible, at its sole cost and expense, for providing and maintaining the Customer-Provided Equipment in good working order. Customer represents and warrants that it has all rights in Customer-Provided Equipment to permit Motorola to access and use the applicable Customer-Provided Equipment to provide the Subscription Services under this SSA, and such access and use will not violate any laws or infringe any third-party rights (including intellectual property rights). Customer (and not Motorola) will be fully liable for Customer-Provided Equipment, and Customer will immediately notify Motorola of any Customer-Provided Equipment damage, loss, change, or theft that may impact Motorola's ability to provide the Subscription Services under this SSA, and Customer acknowledges that any such events may cause a change in the Fees or performance schedule under the applicable Ordering Document.

**3.5. Non-Motorola Content.** In certain instances, Customer may be permitted to access, use, or integrate Customer or third-party software, services, content, and data that is not provided by Motorola (collectively, "Non-Motorola Content") with or through the Subscription Services. If Customer accesses, uses, or integrates any Non-Motorola Content with the Subscription Services, Customer will first obtain all necessary rights and licenses to permit Customer's and its Authorized Users' use of the Non-Motorola Content in connection with the Subscription Services. Customer will also obtain the necessary rights for Motorola to use such Non-Motorola Content in connection with providing the Subscription Services, including the right for Motorola to access, store, and process such Non-Motorola Content, and to otherwise enable interoperation with the Subscription Services. Customer represents and warrants that it will obtain the foregoing rights and licenses prior to accessing, using, or integrating the applicable Non-Motorola Content with the Subscription Services, and that Customer and its Authorized Users will comply with any terms and conditions applicable to such Non-Motorola Content. If any Non-Motorola Content require access to Customer Data (as defined below), Customer hereby authorizes Motorola to allow the provider of such Non-Motorola Content to access Customer Data, in connection with the interoperation of such Non-Motorola Content with the Subscription Services. Customer acknowledges and agrees that Motorola is not responsible for, and makes no representations or warranties with respect to, the Non-Motorola Content (including any disclosure, modification, or deletion of Customer Data resulting from use of Non-Motorola Content or failure to properly interoperate with the Subscription Services). If Customer receives notice that any Non-Motorola Content must be removed, modified, or disabled within the Subscription Services, Customer will promptly do so. Motorola will have the right to disable or remove Non-Motorola Content if Motorola believes a violation of law, third-party rights, or Motorola's policies is likely to occur, or if such Non-Motorola Content poses or may pose a security or other risk or adverse impact to the Subscription Services, Motorola, Motorola's systems, or any third party (including other Motorola customers). Nothing in this Section will limit the exclusions set forth in Section 14.3 – Intellectual Property Infringement of the Primary Agreement.

## **4. Term.**

**4.1. Subscription Terms.** The duration of Customer's subscription to the Subscription Services and any associated recurring Services ordered under this SSA (or the first Subscription Services or recurring Service, if multiple are ordered at once) will commence upon delivery of such Subscription Services (and recurring Services, if applicable) and will continue for a twelve (12) month period or such longer period identified in an Ordering Document (the "**Initial Subscription Period**"). Following the Initial Subscription



Period, Customer's subscription to the Subscription Services and any recurring Services will automatically renew for additional twelve (12) month periods (each, a "**Renewal Subscription Year**"), unless either Party notifies the other Party of its intent not to renew at least thirty (30) days before the conclusion of the then-current Subscription Term. (The Initial Subscription Period and each Renewal Subscription Year will each be referred to herein as a "**Subscription Term**".) Motorola may increase Fees prior to any Renewal Subscription Year. In such case, Motorola will notify Customer of such proposed increase no later than thirty (30) days prior to commencement of such Renewal Subscription Year. Unless otherwise specified in the applicable Ordering Document, if Customer orders any additional or subsequent Subscription Services or recurring Services under this SSA during an in-process Subscription Term, the subscription for each such additional or subsequent Subscription Services or recurring Service will (a) commence upon delivery of such Subscription Services or recurring Service, and continue until the conclusion of Customer's then-current Subscription Term (a "**Partial Subscription Year**"), and (b) automatically renew for Renewal Subscription Years thereafter, unless either Party notifies the other Party of its intent not to renew at least thirty (30) days before the conclusion of the then-current Subscription Term. Thus, unless otherwise specified in the applicable Ordering Document, the Subscription Terms for all Subscription Services and recurring Services hereunder will be synchronized.

**4.2. Term.** The term of this SSA (the "**SSA Term**") will commence upon either (a) the Effective Date of the Primary Agreement, if this SSA is attached to the Primary Agreement as of such Effective Date, or (b) the SSA Date set forth on the signature page below, if this SSA is executed after the Primary Agreement Effective Date, and will continue until the expiration or termination of all Subscription Terms under this SSA, unless this SSA or the Primary Agreement is earlier terminated in accordance with the terms of the Primary Agreement.

**4.3. Termination.** Notwithstanding the termination provisions of the Primary Agreement, Motorola may terminate this SSA (or any Addendum or Ordering Documents hereunder), or suspend delivery of Subscription Services or Services, immediately upon notice to Customer if (a) Customer breaches **Section 3 – Subscription Software License and Restrictions** of this SSA, or any other provision related to Subscription Services terms of service, Subscription Software license scope, or other terms set forth in an Addendum or Ordering Document, or (b) it determines that Customer's use of the Subscription Services poses, or may pose, a security or other risk or adverse impact to any Subscription Services, Motorola, Motorola's systems, or any third party (including other Motorola customers). Customer acknowledges that Motorola made a considerable investment of resources in the development, marketing, and distribution of the Subscription Services and Documentation, and that Customer's breach of this SSA will result in irreparable harm to Motorola for which monetary damages would be inadequate. If Customer breaches this SSA, in addition to termination, Motorola will be entitled to all available remedies at law or in equity (including immediate injunctive relief).

**4.4. Return of Discount.** If Customer is afforded a discount in exchange for a term commitment longer than one-year, early termination by Customer will result in an early termination fee, representing a return of the discount off of list price.

**4.5. Cancellation Fee.** If a minimum Initial Subscription Period applies and Customer terminates prior to the end of the minimum Initial Subscription Period, Customer will be required to pay a cancellation fee of up to fifty percent (50%) of the remaining balance of subscription fees for the minimum Initial Subscription Period.

**4.6. No Refund.** If a subscription is terminated for any reason prior to the end of the Subscription Term, other subscription period set forth in the Ordering Documents, or otherwise agreed to in writing by the Parties, no refund or credit will be provided.

**4.7. Suspension of Services.** Motorola may terminate or suspend any Subscription Services or Services under an Ordering Document if Motorola determines: (a) the related Subscription Software license has expired or has terminated for any reason; (b) the applicable Subscription Services is being used on a hardware platform, operating system, or version not approved by Motorola; (c) Customer fails to make any payments when due; or (d) Customer fails to comply with any of its other obligations or otherwise delays Motorola's ability to perform.

**4.8. Wind Down of Subscription Services.** In addition to the termination rights in the Primary Agreement, Motorola may terminate any Ordering Document and Subscription Term, in whole or in part, in the event Motorola plans to cease offering the applicable Subscription Services or Services to customers.

**4.9. Effect of Termination or Expiration.** Upon termination for any reason or expiration of the Primary Agreement, this SSA, an Addendum, or an Ordering Document, Customer and the Authorized Users will return or destroy (at Motorola's option) all Motorola Materials and Motorola's Confidential Information in their possession or control and, as applicable, provide proof of such destruction. If Customer has any outstanding payment obligations under this SSA, Motorola may accelerate and declare all such obligations of Customer immediately due and payable by Customer. Notwithstanding the reason for termination or expiration, Customer must pay Motorola for Subscription Services already delivered. Customer has a duty to mitigate any damages under this SSA, including in the event of default by Motorola and Customer's termination of this SSA.

## **5. Payment.**

**5.1. Payment.** Unless otherwise provided in an Ordering Document (and notwithstanding the provisions of the Primary Agreement), Customer will prepay an annual subscription Fee set forth in an Ordering Document for each Subscription Services and associated recurring Service, before the commencement of each Subscription Term. For any Partial Subscription Year, the applicable annual subscription Fee will be prorated based on the number of months in the Partial Subscription Year. The annual subscription Fee for Subscription Services and associated recurring Services may include certain one-time Fees, such as start-up fees, license fees, or other fees set forth in an Ordering Document. Motorola will have the right to suspend the Subscription Services and any recurring Services if Customer fails to make any payments when due.

**5.2. No Price Guarantee.** Notwithstanding any language to the contrary, the pricing and Fees associated with this SSA will not be subject to any most favored pricing commitment or other similar low price guarantees.

**5.3. Taxes.** The Fees do not include any excise, sales, lease, use, property, or other taxes, assessments, duties, or regulatory charges or contribution requirements (collectively, "Taxes"), all of which will be paid by Customer, except as exempt by law, unless otherwise specified in an Ordering Document. If Motorola is required to pay any Taxes, Customer will reimburse Motorola for such Taxes (including any interest and penalties) within thirty (30) days after Customer's receipt of an invoice therefore. Customer will be solely responsible for reporting the Subscription Services for personal property tax purposes, and Motorola will be solely responsible for reporting taxes on its income and net worth.

**5.4. Invoicing.** Motorola will invoice Customer at the frequency set forth in the applicable Addendum or Ordering Document, and Customer will pay all invoices within thirty (30) days of the invoice date or as otherwise specified in the applicable Addendum or Ordering Document. Late payments will be subject to interest charges at the maximum rate permitted by law, commencing upon the due date. Motorola may invoice electronically via email, and Customer agrees to receive invoices via email at the email address



set forth in an Ordering Document. Customer acknowledges and agrees that a purchase order or other notice to proceed is not required for payment for the Subscription Services.

**5.5. License True-Up.** Motorola will have the right to conduct an audit of total user licenses credentialed by Customer for any Subscription Services during a Subscription Term, and Customer will cooperate with such audit. If Motorola determines that Customer's usage of the Subscription Services during the applicable Subscription Term exceeded the total number of licenses purchased by Customer, Motorola may invoice Customer for the additional licenses used by Customer, pro-rated for each additional license from the date such license was activated, and Customer will pay such invoice in accordance with the payment terms in the Primary Agreement.

## **6. Liability.**

**6.1. ADDITIONAL EXCLUSIONS.** THE SUBSCRIPTION SERVICES ARE PROVIDED "AS-IS". IN ADDITION TO THE EXCLUSIONS FROM DAMAGES SET FORTH IN THE PRIMARY AGREEMENT, AND NOTWITHSTANDING ANY PROVISION OF PRIMARY AGREEMENT TO THE CONTRARY, MOTOROLA WILL HAVE NO LIABILITY FOR (A) INTERRUPTION OR FAILURE OF CONNECTIVITY, VULNERABILITIES, OR SECURITY EVENTS; (B) DISRUPTION OF OR DAMAGE TO CUSTOMER'S OR THIRD PARTIES' SYSTEMS, EQUIPMENT, OR DATA, INCLUDING DENIAL OF ACCESS TO USERS, OR SHUTDOWN OF SYSTEMS CAUSED BY INTRUSION DETECTION SOFTWARE OR HARDWARE; (C) AVAILABILITY OR ACCURACY OF ANY DATA AVAILABLE THROUGH THE SUBSCRIPTION SOFTWARE OR SERVICES, OR INTERPRETATION, USE, OR MISUSE THEREOF; (D) TRACKING AND LOCATION-BASED SERVICES; (E) BETA SERVICES; (F) CUSTOMER DATA, INCLUDING ITS TRANSMISSION TO MOTOROLA, OR ANY OTHER DATA AVAILABLE THROUGH THE SUBSCRIPTION SERVICES; (G) CUSTOMER-PROVIDED EQUIPMENT, NON-MOTOROLA CONTENT, THE SITES, OR THIRD-PARTY EQUIPMENT, HARDWARE, SOFTWARE, DATA, OR OTHER THIRD-PARTY MATERIALS, OR THE COMBINATION OF SUBSCRIPTION SERVICES WITH ANY OF THE FOREGOING; (H) LOSS OF DATA OR HACKING; (I) MODIFICATION OF SUBSCRIPTION SERVICES BY ANY PERSON OTHER THAN MOTOROLA; (J) RECOMMENDATIONS PROVIDED IN CONNECTION WITH THE SUBSCRIPTION SERVICES; (K) DATA RECOVERY SERVICES OR DATABASE MODIFICATIONS; OR (L) CUSTOMER'S OR ANY AUTHORIZED USER'S BREACH OF THIS SSA OR MISUSE OF THE SUBSCRIPTION SERVICES.

**6.2. Voluntary Remedies.** Motorola is not obligated to remedy, repair, replace, or refund the purchase price for the disclaimed or excluded issues in the Primary Agreement or **Section 6.1 – Additional Exclusions** above, but if Motorola agrees to provide Services to help resolve such issues, Customer will reimburse Motorola for its reasonable time and expenses, including by paying Motorola any Fees set forth in an Ordering Document for such Services, if applicable.

## **7. Proprietary Rights; Data; Feedback.**

**7.1. Motorola Materials.** Customer acknowledges that Motorola may use or provide Customer with access to software, tools, data, and other materials, including designs, utilities, models, methodologies, systems, and specifications, which Motorola has developed or licensed from third parties (including any corrections, bug fixes, enhancements, updates, modifications, adaptations, translations, de-compilations, disassemblies, or derivative works of the foregoing, whether made by Motorola or another party) (collectively, "Motorola Materials"). The Subscription Services, Motorola Data, Third-Party Data, and Documentation, are considered Motorola Materials. Except when Motorola has expressly transferred title or other interest to Customer by way of an Ordering Document or under the Primary Agreement, the Motorola Materials are the property of Motorola or its licensors, and Motorola or its licensors retain all right, title and interest in and to the Motorola Materials (including, all rights in patents, copyrights, trademarks, trade names, trade secrets, know-how, other intellectual property and proprietary rights, and

all associated goodwill and moral rights). For clarity, this SSA does not grant to Customer any shared development rights in or to any Motorola Materials or other intellectual property, and Customer agrees to execute any documents and take any other actions reasonably requested by Motorola to effectuate the foregoing. Motorola and its licensors reserve all rights not expressly granted to Customer, and no rights, other than those expressly granted herein, are granted to Customer by implication, estoppel or otherwise. Customer will not modify, disassemble, reverse engineer, derive source code or create derivative works from, merge with other software, distribute, sublicense, sell, or export the Subscription Services or other Motorola Materials, or permit any third party to do so.

**7.2. Ownership of Customer Data.** Customer retains all right, title and interest, including intellectual property rights, if any, in and to Customer Data. Motorola acquires no rights to Customer Data except those rights granted under this SSA including the right to Process and use the Customer Data as set forth in Section 7.3 – Processing Customer Data below and in other applicable Addenda. The Parties agree that with regard to the Processing of personal information which may be part of Customer Data, Customer is the controller and Motorola is the processor, and may engage sub-processors pursuant to Section 7.3.3 – Sub-processors.

**7.3. Processing Customer Data.**

7.3.1. **Motorola Use of Customer Data.** To the extent permitted by law, Customer grants Motorola and its subcontractors a right to use Customer Data and a royalty-free, worldwide, non-exclusive license to use Customer Data (including to process, host, cache, store, reproduce, copy, modify, combine, analyze, create derivative works from such Customer Data and to communicate, transmit, and distribute such Customer Data to third parties engaged by Motorola) to (a) perform Services and provide Subscription Services under this SSA, (b) analyze the Customer Data to operate, maintain, manage, and improve Motorola products and services, and (c) create new products and services. Customer agrees that this SSA, along with the Documentation, are Customer's complete and final documented instructions to Motorola for the processing of Customer Data. Any additional or alternate instructions must be agreed to according to the Change Order process. Customer represents and warrants to Motorola that Customer's instructions, including appointment of Motorola as a processor or sub-processor, have been authorized by the relevant controller.

7.3.2. **Collection, Creation, Use of Customer Data.** Customer further represents and warrants that the Customer Data, Customer's collection, creation, and use of the Customer Data (including in connection with the Subscription Services), and Motorola's use of such Customer Data in accordance with this SSA, will not violate any laws or applicable privacy notices or infringe any third-party rights (including intellectual property and privacy rights). Customer also represents and warrants that the Customer Data will be accurate and complete, and that Customer has obtained all required consents, provided all necessary notices, and met any other applicable legal requirements with respect to collection and use (including Motorola's and its subcontractors' use) of the Customer Data as described in this SSA.

7.3.3. **Sub-processors.** Customer agrees that Motorola may engage sub-processors who in turn may engage additional sub-processors to Process personal data in accordance with this SSA. When engaging sub-processors, Motorola will enter into agreements with the sub-processors to bind them to data processing obligations to the extent required by law.

**7.4. Data Retention and Deletion.** Except for anonymized Customer Data, as described above, or as otherwise provided under this SSA, Motorola will delete all Customer Data following termination or expiration of this SSA, the applicable Addendum, or Ordering Document, with such deletion to occur no later than ninety (90) days following the applicable date of termination or expiration, unless otherwise required to comply with applicable law. Any requests for the exportation or download of Customer Data



must be made by Customer to Motorola in writing before expiration or termination, subject to Section 17.7 – Notices of the Primary Agreement. Motorola will have no obligation to retain such Customer Data beyond expiration or termination unless the Customer has purchased extended storage from Motorola through a mutually executed Ordering Document.

**7.5. Service Use Data.** Customer understands and agrees that Motorola may collect and use Service Use Data for its own purposes, including the uses described below. Motorola may use Service Use Data to (a) operate, maintain, manage, and improve existing and create new products and services, (b) test products and services, (c) to aggregate Service Use Data and combine it with that of other users, and (d) to use anonymized or aggregated data for marketing, research or other business purposes. Service Use Data may be disclosed to third parties. It is Customer's responsibility to notify Authorized Users of Motorola's collection and use of Service Use Data and to obtain any required consents, provide all necessary notices, and meet any other applicable legal requirements with respect to such collection and use, and Customer represents and warrants to Motorola that it has complied and will continue to comply with this Section.

**7.6. Third-Party Data and Motorola Data.** Motorola Data and Third-Party Data may be available to Customer through the Subscription Services. Customer and its Authorized Users may use Motorola Data and Third-Party Data as permitted by Motorola and the applicable Third-Party Data provider, as described in an Ordering Document or Subscription Services-specific Addendum. Unless expressly permitted in the applicable Addendum, Customer will not, and will ensure its Authorized Users will not: (a) use the Motorola Data or Third-Party Data for any purpose other than Customer's internal business purposes; (b) disclose the data to third parties; (c) "white label" such data or otherwise misrepresent its source or ownership, or resell, distribute, sublicense, or commercially exploit the data in any manner; (d) use such data in violation of applicable laws; (e) remove, obscure, alter, or falsify any marks or proprietary rights notices indicating the source, origin, or ownership of the data; or (f) modify such data or combine it with Customer Data or other data or use the data to build databases. Additional restrictions may be set forth in the applicable Addendum. Any rights granted to Customer or Authorized Users with respect to Motorola Data or Third-Party Data will immediately terminate upon termination or expiration of the applicable Addendum, Ordering Document, or this SSA. Further, Motorola or the applicable Third-Party Data provider may suspend, change, or terminate Customer's or any Authorized User's access to Motorola Data or Third-Party Data if Motorola or such Third-Party Data provider believes Customer's or the Authorized User's use of the data violates this SSA, applicable law or Motorola's agreement with the applicable Third-Party Data provider. Upon termination of Customer's rights to use any Motorola Data or Third-Party Data, Customer and all Authorized Users will immediately discontinue use of such data, delete all copies of such data, and certify such deletion to Motorola. Notwithstanding any provision of this SSA to the contrary, Motorola will have no liability for Third-Party Data or Motorola Data available through the Subscription Services. Motorola and its Third-Party Data providers reserve all rights in and to Motorola Data and Third-Party Data not expressly granted in an Addendum or Ordering Document.

**7.7. Feedback.** Any Feedback provided by Customer is entirely voluntary, and will not create any confidentiality obligation for Motorola, even if designated as confidential by Customer. Motorola may use, reproduce, license, and otherwise distribute and exploit the Feedback without any obligation or payment to Customer or Authorized Users and Customer represents and warrants that it has obtained all necessary rights and consents to grant Motorola the foregoing rights.

**7.8. Improvements; Products and Services.** The Parties agree that, notwithstanding any provision of this SSA or Primary Agreement to the contrary, all fixes, modifications and improvements to the Subscription Services conceived of or made by or on behalf of Motorola that are based either in whole or in part on the Feedback, Customer Data, or Service Use Data (or otherwise) are the exclusive property of Motorola and all right, title and interest in and to such fixes, modifications or improvements will vest

solely in Motorola. Customer agrees to execute any written documents necessary to assign any intellectual property or other rights it may have in such fixes, modifications or improvements to Motorola.

**7.9. Motorola as a Controller or Joint Controller.** In all instances where Motorola acts as a controller of data, it will comply with the applicable provisions of the Motorola Privacy Statement at [https://www.motorolasolutions.com/en\\_us/about/privacy-policy.html#privacystatement](https://www.motorolasolutions.com/en_us/about/privacy-policy.html#privacystatement), as may be updated from time to time. Motorola holds all Customer Contact Data as a controller and shall Process such Customer Contact Data in accordance with the Motorola Privacy Statement. In instances where Motorola is acting as a joint controller with Customer, the Parties will enter into a separate Addendum to the Primary Agreement to allocate the respective roles as joint controllers.

## **8. Security.**

**8.1. Industry Standard.** Motorola will maintain industry standard security measures to protect the Subscription Services from intrusion, breach, or corruption. During the term of this SSA, if the Subscription Services enables access to Criminal Justice Information (“CJI”), as defined by the Criminal Justice Information Services Security Policy (“CJIS”), Motorola will provide and comply with a CJIS Security Addendum. Any additional security measure desired by Customer may be available for an additional fee.

**8.2. Background checks.** Motorola will require its personnel that access CJI to submit to a background check based on submission of FBI fingerprint cards.

**8.3. Customer Security Measures.** Customer is independently responsible for establishing and maintaining its own policies and procedures and for ensuring compliance with CJIS and other security requirements that are outside the scope of the Subscription Services provided. Customer must establish and ensure compliance with access control policies and procedures, including password security measures. Further, Customer must maintain industry standard security measures. Motorola disclaims any responsibility or liability whatsoever for the security or preservation of Customer Data or Customer Contact Data once accessed or viewed by Customer or its representatives. Motorola further disclaims any responsibility or liability whatsoever that relates to or arise from Customer's failure to maintain industry standard security measures and controls, including but not limited to lost or stolen passwords. Motorola reserves the right to terminate the Subscription Services if Customer's failure to maintain or comply with industry standard security and control measures negatively impacts the Subscription Services or Motorola's own security measures.

**8.4. Breach Response Plan.** Both parties will maintain and follow a breach response plan consistent with the standards of their respective industries.

## **9. General Provisions.**

**9.1. Third-Party Beneficiaries.** This SSA is entered into solely between, and may be enforced only by, the Parties. Each Party intends that this SSA will not benefit, or create any right or cause of action in or on behalf of, any entity other than the Parties. Notwithstanding the foregoing, a licensor or supplier of third-party software included in the software Products will be a direct and intended third-party beneficiary of this SSA.

**9.2. Cumulative Remedies.** Except as specifically stated in this SSA, all remedies provided for in this SSA will be cumulative and in addition to, and not in lieu of, any other remedies available to either Party at law, in equity, by contract, or otherwise. Except as specifically stated in this SSA, the election by a Party of any remedy provided for in this SSA or otherwise available to such Party will not preclude such Party from pursuing any other remedies available to such Party at law, in equity, by contract, or otherwise.



**9.3. Audit; Monitoring.** Motorola will have the right to monitor and audit use of the Subscription Services, which may also include access by Motorola to Customer Data and Service Use Data. Customer will provide notice of such monitoring to its Authorized Users and obtain any required consents, including individual end users, and will cooperate with Motorola in any monitoring or audit. Customer will maintain during the Subscription Term, and for two (2) years thereafter, accurate records relating to any software licenses granted under this SSA to verify compliance with this SSA. Motorola or a third party (“Auditor”) may inspect Customer’s and, as applicable, Authorized Users’ premises, books, and records. Motorola will pay expenses and costs of the Auditor, unless Customer is found to be in violation of the terms of this SSA, in which case Customer will be responsible for such expenses and costs.

**9.4. Survival.** The following provisions will survive the expiration or termination of this SSA for any reason: **Section 4 – Term; Section 5 – Payment; Section 6.1 – Additional Exclusions; Section 7 – Proprietary Rights; Data, Feedback, Section 8 – General Provisions**, and where the context of any section indicates an intent that such section shall survive the term of this SSA, then such section shall survive.

The Parties hereby enter into this SSA as of [redacted] (the “SSA Date”).<sup>1</sup>

**Motorola: Motorola Solutions, Inc.**

**Customer: [redacted]**

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

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

Name: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

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<sup>1</sup> **NTD:** Signature blocks can be removed if this SSA is attached to the CSSA when the CSSA is executed.

## PROOF OF CONCEPT AGREEMENT

This Proof of Concept Agreement (“**Agreement**”), effective as of the date of the last signature below (“**Effective Date**”), is made on the [REDACTED] day of [REDACTED], 202\_\_, between Motorola Solutions, Inc., a Delaware corporation whose principal place of business is at 500 W. Monroe, Chicago, IL 60661 (“**Motorola**” or “**Motorola Solutions**”) and [REDACTED], whose principal place of business is [REDACTED] (“**Customer**”). Motorola and Customer may be referred to individually as **Party** and together as **Parties**.

This Agreement sets forth the terms under which Motorola Solutions will install equipment (“**Equipment**”), software (“**Software**”), subscription-based-software services (“**Subscription Software**”) and/or provide related services (“**Services**”) (**Collectively the “Solution**”), as applicable to enable Customer to evaluate the Solution. Additional terms and conditions applicable to specific Subscription Software are set forth in the Subscription Software Addendum (“**SSA**”), attached hereto, along with any ordering document (“**Ordering Document**”), and will form part of the Agreement.

Equipment, Software, and Services will be provided at a single site selected by Customer. Such Equipment, Software, and Services may be identified in an attached Scope of Work (“**SOW**”), if applicable or in other documentation provided to Customer.

**License.** Subject to the terms of the SSA, Motorola Solutions hereby grants to Customer, a temporary, royalty-free, non-exclusive, non-transferable, non-assignable right to use the Software and any accompanying documentation only to evaluate the Solution (“**Evaluation**”) during the Term. In this regard, **Customer** will have the limited right to use the Software in **Object Code** form, and related documentation. “**Object Code**” means computer-programming code in machine-readable form. Upon any termination or expiration of this Agreement, Customer shall not have any right to use the Software.

**Term.** The term (“**Term**”) of this Agreement shall be for a period of [REDACTED] (#) days/months, or until Customer purchases and goes live with the Solution, and shall commence on the activation date (“**Activation Date**”), which is defined as the date that the Authorized Users (as defined in the attached SSA) receive access to the Solution. Unless terminated earlier in accordance with this Agreement. Motorola Solutions may terminate this Agreement at any time prior to the end of the Term for any reason or for no reason. Customer may terminate this Agreement prior to expiration by notifying Motorola Solutions and returning all Equipment and Software to Motorola Solutions in accordance with the below paragraph, “**Receipt and Return.**” The Term may be extended by mutual written consent.



**Conditions.** Customer and its employees shall at all times exercise reasonable care in using the Solution, including proper use and maintenance in accordance with Motorola Solutions' instructions.

This Agreement shall not be interpreted as granting to Customer any license, title or right not expressly granted herein. Customer agrees that it will not do any of the following and will require others to refrain from doing any of the following with regard to the Software provided directly or indirectly, by electronic or other means: (i) copy, modify, or translate the Software; (ii) reproduce, reverse engineer, distribute, sell, publish, commercially exploit, rent, lease, sublicense, assign or otherwise transfer or make available the Software or any part thereof to any third party, or otherwise disseminate the Software in any manner; (iii) modify, decompile, or disassemble the Software or part thereof, or attempt to derive source code from the Software; or (iv) remove any proprietary notices, labels, or marks on the Software or any part thereof. Customer's use of the Software is strictly limited to use in connection with the Evaluation and only for use solely in connection with the Equipment. Motorola Solutions reserves all rights to the Software not expressly granted herein. Customer agrees to abide by the copyright laws of the United States and all other relevant jurisdictions, including without limitation, the copyright laws where Customer uses the Solution. Customer agrees to immediately cease using the Software if it fails to comply with this paragraph or any other part of this Agreement.

**Ownership and Proprietary Rights.** The Software, Equipment, and documentation is solely owned by Motorola Solutions. The Software is licensed to Customer and is not being sold to Customer. All right, title, and interest in and to the Software remains vested in Motorola Solutions or its licensors. Except as expressly provided herein, this Agreement does not grant to Customer any express or implied rights under any Motorola Solutions patents, copyrights, trademarks, or other intellectual property rights. All rights not expressly granted to Customer hereunder are reserved for Motorola Solutions. The Equipment and Software and associated documentation shall remain the personal property of Motorola Solutions even if installed in or attached (even temporarily) to hardware owned by Customer or a third party.

**Customer Software.** Customer may provide additional software for use during the Evaluation. Customer warrants and represents that it has the right and applicable licenses to allow Motorola to access and use such software for purposes of the Evaluation, including all third-party portions of such software. Customer shall indemnify and hold Motorola harmless for any and all claims related to or arising from access or use of software provided by Customer for the Evaluation.

**Data Storage.** If the Solution provided pursuant to this Agreement includes the storage of Customer data, Customer must retrieve all stored data within 30 days of the end of the Term or prior to the effective date of termination of the Agreement. Unless otherwise agreed in writing, Motorola will not retain Customer data after expiration or termination of the Agreement. Customer is solely responsible for complying with evidentiary or record retention laws,

regulations, rules or policies. Motorola disclaims any and all liability for compliance with any evidentiary requirements. Further, Motorola does not provide assurances for or support of evidentiary rules and requirements after effective date of termination unless Customer makes a purchase of the Service.

**Trade Secret.** Customer acknowledges that the Software, any associated documentation and methodologies used in providing Services are proprietary to, and valuable trade secrets of Motorola Solutions, and are entrusted to Customer only for evaluation purposes in accordance with this Agreement. Customer and its employees shall treat the Solution in the strictest confidence. Customer agrees that it will not, without Motorola Solutions' express prior written consent:

- a. disclose any information about the Solution, its design and performance specifications, methodologies, or the existence of the Evaluation and its results to anyone other than Customer's employees who are performing the Evaluation and have a need to have access such information; or
- b. copy any portion of the Solution or the methodologies used in providing the Services, Software or documentation, except to the extent necessary to perform the Evaluation.

**Results of Evaluation.** Motorola Solutions may receive suggestions, recommendations, comments, or other communication from Customer about the Solution ("**Feedback**"). Any Feedback given by Customer is and will be entirely voluntary and, even if designated as confidential, will not create any confidentiality obligation for Motorola Solutions. Motorola Solutions will be free to use, reproduce, license or otherwise distribute and exploit the Feedback to improve and enhance the Solution and otherwise, without any obligation to Customer. Customer acknowledges that Motorola Solutions' receipt of the Feedback does not imply or create recognition by Motorola Solutions of either the novelty or originality of any idea. Customer further agrees that all fixes, modifications and improvements to the Solution conceived by or made by Motorola Solutions that are based, either in whole or in part, on the Feedback are the exclusive property of Motorola Solutions and all right, title and interest in and to such fixes, modifications or improvements to the Solution will vest solely in Motorola Solutions.

**Confidentiality.** "**Confidential Information**" is defined as any and all Motorola Solutions information consistent with the Evaluation that is (i) disclosed in oral, written, graphic, machine recognizable, and/or sample form, or (ii) obtained by examination, testing or analysis of any products, hardware, software, documentation, or any component part thereof provided by Motorola Solutions to Customer.

Customer is not obligated to maintain as confidential, Confidential information that Customer can demonstrate to Motorola Solutions' satisfaction (i) is now available or becomes available to the public through no fault of Customer; (ii) is explicitly approved for release by written authorization of Motorola Solutions; (iii) is lawfully obtained from a third party or parties without a duty of confidentiality; (iv) is known to the Customer or any of its affiliated companies prior to



such disclosure; or (v) is independently developed by Customer or any of its Affiliated Companies without the use of any of Motorola Solutions' Confidential Information or any breach of this Agreement. "**Affiliated Company**" means any company which is, now or during the term of this Agreement, a wholly-owned subsidiary of a Party or any of its wholly-owned subsidiaries, the parent company of a Party, or a wholly-owned subsidiary of the parent company.

If Customer is required to disclose Confidential Information pursuant to applicable law, statute, or regulation, or court order, the Customer will give to Motorola Solutions prompt written notice of the request and a reasonable opportunity to object to such disclosure and seek a protective order or appropriate remedy. If, in the absence of a protective order, Customer determines, upon the advice of counsel, that it is required to disclose such information, it may disclose only Confidential Information specifically required and only to the extent compelled to do so.

During the term of this Agreement and for a period of 5 year(s) from the expiration or termination of this Agreement, Customer will (i) not disclose Confidential Information to any third party; (ii) restrict disclosure of Confidential Information to only those employees, agents or consultants who must be directly involved with the Confidential Information for the Evaluation and who are bound by confidentiality terms substantially similar to those in this Agreement; (iii) not reverse engineer, decompile or disassemble any Confidential Information; (iv) use the same degree of care as for its own information of like importance, but at least use reasonable care, in safeguarding against disclosure of Confidential Information; (v) promptly notify Motorola Solutions upon discovery of any unauthorized use or disclosure of the Confidential Information and take reasonable steps to regain possession of the Confidential Information and prevent further unauthorized actions or other breach of this Agreement; and (vi) only use the Confidential Information in connection with the Evaluation.

All Confidential Information remains the property of Motorola Solutions and will not be copied or reproduced without the express written permission of Motorola Solutions, except for copies that are absolutely necessary for the Evaluation.

**Export Compliance.** Customer will not transfer, directly or indirectly, any product, technical data or software furnished hereunder, or the direct product of such technical data or software, to any country for which the United States Government, or any other applicable government, requires an export license or other governmental approval, without first obtaining such license or approval.

**Customer Site.** If the Solution is to be installed at a Customer location, the Solution will only be installed and/or evaluated at the Customer site identified in the documents provided by Motorola for the Evaluation. The Equipment used for the Services will only be located at such site. If the Solution is to be accessed remotely, Customer will only access Solution in the manner described by Solution documentation or as otherwise instructed by Motorola.

**Receipt and Return.** If the Solution included hardware, customer shall be responsible for the shipping and returning of all the Equipment and Software to Motorola Solutions within thirty (30) days after the expiration of the Term using the provided pre-paid shipping label(s). Failure of Customer to return the Equipment as required may result in additional charges due to Motorola Solutions to cover the cost of the Equipment. Customer shall return or destroy all copies of the Confidential Information, Software and documentation after the Term. Customer equipment shall be free of Motorola's Software within thirty (30) days after the Term or early termination under the terms of the Agreement.

**Existing Equipment and Software.** Customer is solely responsible for supporting and maintaining any existing equipment and software. The Equipment and Software provided by Motorola may connect to or interface with existing equipment and software owned by Customer. Any failures or deficiencies may impact the functionality of the Solution.

**Warranty Disclaimer.** EACH PARTY RECOGNIZES AND AGREES THAT ALL SOFTWARE PROVIDED UNDER THIS AGREEMENT BY MOTOROLA SOLUTIONS IS DELIVERED AS IS, WHERE IS, AND WHEN AVAILABLE. MOTOROLA SOLUTIONS MAKES NO REPRESENTATIONS OR WARRANTIES UNDER OR RELATED TO THIS AGREEMENT FOR THE SOFTWARE PROVIDED HEREUNDER AND HEREBY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES, WRITTEN OR ORAL, STATUTORY, EXPRESS OR IMPLIED, RELATED TO THE SOFTWARE PROVIDED HEREUNDER, INCLUDING WITHOUT LIMITATION, TO THE MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, DESIGN, CONDITION, QUALITY, CAPACITY, MATERIAL OR WORKMANSHIP OR AS TO PATENT INFRINGEMENT OR THE LIKE, IT BEING AGREED THAT ALL SUCH RISKS ARE, AS BETWEEN MOTOROLA SOLUTIONS AND CUSTOMER, TO BE BORNE BY CUSTOMER.

**Limitation of Liability.** Motorola Solutions does not assume and shall have no liability under this Agreement for (i) failure to deliver the Services or Software within a specified time period; (ii) availability and delays in delivery of the Services or Software, (iii) any failure or interruption of the Software and/or operation of the Equipment, or (iv) damage caused by the Software or Equipment due directly or indirectly to causes beyond the control of Motorola Solutions, including, but not limited to acts of God, acts of the public enemy, acts of the government, acts or failures to act by you, fires, floods, epidemics, quarantine restrictions, corrosive substances in the air or other hazardous environmental conditions, strikes, freight embargoes, inability to obtain materials or services, commotion, war, unusually severe weather conditions or default of subcontractors whether or not due to any such causes; (v) maintenance and storage of data; (vi) disclosure of or failure to protect personally identifiable data. IN NO EVENT SHALL MOTOROLA SOLUTIONS BE LIABLE FOR ANY INCIDENTAL, INDIRECT, DIRECT, SPECIAL, REMOTE, PUNITIVE OR CONSEQUENTIAL DAMAGES CAUSED BY ITS



NEGLIGENCE OR OTHERWISE, NOR FOR REVENUE OR ACTUAL OR PROSPECTIVE PROFITS, SALES, BUSINESS ADVANTAGE, OR GOODWILL, OR ATTORNEY'S FEES, ARISING FROM OR CAUSED, DIRECTLY OR INDIRECTLY BY THE USE OF THE EQUIPMENT OR SOFTWARE PROVIDED UNDER THIS AGREEMENT; ECONOMIC LOSS; PERSONAL INJURIES OR PROPERTY DAMAGES SUSTAINED BY CUSTOMER OR ANY THIRD PARTIES INCLUDING, WITHOUT LIMITATION, LIABILITY FOR ANY LOSS OR DAMAGE RESULTING FROM ANY INTERRUPTION CAUSED BY THE EQUIPMENT OR SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. MOTOROLA SOLUTIONS' TOTAL LIABILITY FOR DAMAGES TO CUSTOMER OR OTHERS SHALL IN NO WAY EXCEED THE FAIR MARKET VALUE OF SERVICES PAID BY THE CUSTOMER TO MOTOROLA SOLUTIONS UNDER THIS AGREEMENT, EXCEPT IN INSTANCES OF BODILY INJURY OR DAMAGE TO TANGIBLE PERSONAL PROPERTY.

**No Waiver.** No waiver, amendment or modification of any provision hereof or of any right or remedy hereunder will be effective unless made in writing and signed by the Party against whom such waiver, amendment or modification is sought to be enforced. No failure by any Party to exercise, and no delay by any Party in exercising, any right, power or remedy with respect to the obligations secured hereby will operate as a waiver of any such right, power or remedy.

**Indemnification.** Customer will indemnify and hold Motorola harmless from any and all liability, expense, judgment, suit, cause of action, or demand for personal injury, death, or damage to property which may accrue against Motorola to the extent it is caused by Customer, its other contractors, or their employees or agents, including but not limited to causes of action for damages related to tracking, location based services (“LBS”), breach of privacy, and the use or misuse of Personal Identifiable Information (“PII”) Customer is, will be and remain the controller of the data contained in the Equipment for purposes of all applicable laws relating to data privacy, transborder data flow and data protection.

**Regulatory Requirements.** Customer is solely responsible for complying with any and all statutory or regulatory requirements associated with use of the Solution, including requirements triggered by voice and data transmission. Any changes to the design, installation, support, or other obligations required to achieve regulatory compliance, including but not limited to FCC or ADA requirements, may impact the price of Solution. Further, Motorola Solutions makes no commitment to collect, hold, manage, or maintain data for evidentiary or recovery purposes.

**No Assignment.** Neither the Agreement nor any right or obligation hereunder may be assigned or delegated by Customer (including by operation of law) without Motorola Solutions' express prior written consent, and any assignment or delegation without such consent will be void.

**Severability.** If any provision of this Agreement is declared by a court of competent jurisdiction to be invalid, void, or unenforceable, the parties will modify such provision to the extent possible to most nearly affect its intent. In the event the parties cannot agree, then either Party may

terminate this Agreement on thirty (30) days written notice. In any case, the remaining provisions of this Agreement shall not be affected.

**Counterparts.** This Agreement may be executed in multiple counterparts, each of which will be deemed an original and all of which will constitute one and the same instrument. The parties may execute this Agreement in writing, or by electronic signature, and any such electronic signature will have the same legal effect as a handwritten signature for the purposes of validity, enforceability and admissibility. In addition, an electronic signature, a true and correct facsimile copy or computer image of this Agreement will be treated as and will have the same effect as an original signed copy of this Agreement.

**Governing Law.** This Agreement shall be governed by the laws of the State of Illinois without giving effect to the conflict of law principles thereof and excluding the Convention on Contracts for the International Sale of Goods. Jurisdiction shall be in the State of Illinois, in the County of Cook, Illinois, and the United States District Court for the Northern District of Illinois and to the respective appellate courts thereof in connection with any appeal therefrom

**Notices.** All notices hereunder shall be in writing and shall be delivered in person by a nationally recognized courier, providing proof of service, or sent by registered or certified mail, postage and fees prepaid, return receipt requested, to the attention of the other Party's designated point of contact as set forth herein.

**Entire Agreement.** The Agreement is the entire understanding of the Parties with respect to the subject matter hereof. This Agreement may be executed in multiple counterparts and shall have the same legal force and effect as if the Parties had executed it as a single document. The Parties may sign in writing, or by electronic signature, including by email. An electronic signature, or a facsimile copy or computer image, such as a PDF or tiff image, of a signature, shall be treated as and shall have the same effect as an original signature. In addition, an electronic signature, a true and correct facsimile copy or computer image of this Agreement shall be treated as and shall have the same effect as an original signed copy of this document. This Agreement may be amended or modified only by a written instrument signed by authorized representatives of both Parties.



**IN WITNESS WHEREOF**, the parties, intending to be legally bound, have executed this Agreement as of the Effective Date.

**MOTOROLA SOLUTIONS, INC.**

**CUSTOMER**

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

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

**Name Typed:**

**Name Typed:**

**Title:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Date:** \_\_\_\_\_

## SUBSCRIPTION SOFTWARE ADDENDUM

This Subscription Software Addendum (this “**SSA**”) is entered into between Motorola Solutions, Inc., with offices at 500 W. Monroe Street, Suite 4400, Chicago, IL 60661 (“**Motorola**”) and the entity set forth in the Agreement (“**Customer**”), and will be subject to, and governed by, the terms of the Agreement entered into between the Parties, effective as of the Activation Date. Capitalized terms used in this SSA, but not defined herein, will have the meanings set forth in the Agreement.

**1. Addendum.** This SSA governs Customer’s purchase or trial use of Subscription Software from Motorola and will form part of the Parties’ Agreement. Additional Subscription Software-specific addenda or other terms and conditions may apply to certain Subscription Software, where such terms are provided or presented to Customer.

### **2. Delivery of Subscription Software.**

**2.1. Delivery.** During the Agreement Term, Motorola will provide to Customer the Subscription Software in accordance with the terms of the Agreement. Motorola will provide Customer advance notice (which may be provided electronically) of any planned downtime. Delivery will occur upon Customer’s receipt of credentials required for access to the Subscription Software or upon Motorola otherwise providing access to the Subscription Software. If agreed upon in an Ordering Document, Motorola will also provide Services related to such Subscription Software.

**2.2. User Credentials.** If applicable, Motorola will provide Customer with administrative user credentials for the Subscription Software, and Customer will ensure such administrative user credentials are accessed and used only by Customer’s employees with training on their proper use. Customer will protect, and will cause its Authorized Users, to protect, the confidentiality and security of all user credentials, including any administrative user credentials, and maintain user credential validity, including by updating passwords. “**Authorized Users**” are defined as Customer’s employees, full-time contractors engaged for the purpose of supporting the Equipment and Services that are not competitors of Motorola. Customer will be liable for any use of the Subscription Software through such user credential (including through any administrative user credentials), including any changes made to the Subscription Software or issues or user impact arising therefrom.

**2.3. Beta Services.** If Motorola makes any beta version of a software application (“**Beta Service**”) available to Customer, Customer may choose to use such Beta Service at its own discretion, provided, however, that Customer will use the Beta Service solely for purposes of Customer’s evaluation of such Beta Service, and for no other purpose. Customer acknowledges and agrees that all Beta Services are offered “as-is” and without any representations or warranties or other commitments or protections from Motorola. Motorola will determine the duration of the evaluation period for any Beta Service, in its sole discretion, and Motorola may discontinue any Beta Service at any time. Customer acknowledges that Beta Services, by their nature, have not been fully tested and may contain defects or deficiencies.

### **3. Subscription Software License and Restrictions.**



**3.1. Subscription Software License.** Subject to Customer's and its Authorized Users' compliance with the Agreement, including payment terms, Motorola hereby grants Customer and its Authorized Users a limited, non-transferable, non-sublicenseable, and non-exclusive license to use the Subscription Software identified in an Ordering Document, and the associated Documentation, solely for Customer's internal business purposes. The foregoing license grant will be limited to use in the territory and to the number of licenses set forth in an Ordering Document (if applicable), and will continue for the applicable Subscription Term. Customer may access, and use the Subscription Software only in Customer's owned or controlled facilities, including any authorized mobile sites; provided, however, that Authorized Users using authorized mobile or handheld devices may also log into and access the Subscription Software remotely from any location. No custom development work will be performed under this Addendum.

**3.2. End User Licenses.** Notwithstanding any provision to the contrary in the Agreement, certain Subscription Software is governed by a separate license, EULA, or other agreement, including terms governing third-party software, such as open source software, included in the Subscription Software. Customer will comply, and ensure its Authorized Users comply, with such additional license agreements.

**3.3. Customer Restrictions.** Customers and Authorized Users will comply with the applicable Documentation and the copyright laws of the United States and all other relevant jurisdictions (including the copyright laws where Customer uses the Subscription Software) in connection with their use of the Subscription Software. Customer will not, and will not allow others including the Authorized Users, to make the Subscription Software available for use by unauthorized third parties, including via a commercial rental or sharing arrangement; reverse engineer, disassemble, or reprogram software used to provide the Subscription Software or any portion thereof to a human-readable form; modify, create derivative works of, or merge the Subscription Software or software used to provide the Subscription Software with other software; copy, reproduce, distribute, lend, or lease the Subscription Software or Documentation for or to any third party; take any action that would cause the Subscription Software, software used to provide the Subscription Software, or Documentation to be placed in the public domain; use the Subscription Software to compete with Motorola; remove, alter, or obscure, any copyright or other notice; share user credentials (including among Authorized Users); use the Subscription Software to store or transmit malicious code; or attempt to gain unauthorized access to the Subscription Software or its related systems or networks. "**Documentation**" is defined as training manuals, and other deliverables such as reports, specifications, designs, plans, drawings, analytics, or other information provided with the Equipment and Services, which specify technical and performance features, capabilities, users or operation.

#### **4. Term.**

**4.1. Termination.** Notwithstanding the termination provisions of the Agreement, Motorola may terminate this SSA (or any Addendum or Ordering Documents hereunder), or suspend delivery of Subscription Software or Services, immediately upon notice to Customer if (a) Customer breaches **Section 3 – Subscription Software License and Restrictions** of this SSA, or any other provision related to Subscription Software license scope or restrictions set forth in an Addendum or Ordering Document, or (b) it determines that Customer's use of the Subscription

Software poses, or may pose, a security or other risk or adverse impact to any Subscription Software, Motorola, Motorola's systems, or any third party (including other Motorola customers). Customer acknowledges that Motorola made a considerable investment of resources in the development, marketing, and distribution of the Subscription Software and Documentation, and that Customer's breach of the Agreement will result in irreparable harm to Motorola for which monetary damages would be inadequate. If Customer breaches this Agreement, in addition to termination, Motorola will be entitled to all available remedies at law or in equity (including immediate injunctive relief).

## 5. Liability.

**5.1. ADDITIONAL EXCLUSIONS.** IN ADDITION TO THE EXCLUSIONS FROM DAMAGES SET FORTH IN THE AGREEMENT, AND NOTWITHSTANDING ANY PROVISION OF THE AGREEMENT TO THE CONTRARY, MOTOROLA WILL HAVE NO LIABILITY FOR (A) INTERRUPTION OR FAILURE OF CONNECTIVITY, VULNERABILITIES, OR SECURITY EVENTS; (B) DISRUPTION OF OR DAMAGE TO CUSTOMER'S OR THIRD PARTIES' SYSTEMS, EQUIPMENT, OR DATA, INCLUDING DENIAL OF ACCESS TO USERS, OR SHUTDOWN OF SYSTEMS CAUSED BY INTRUSION DETECTION SOFTWARE OR HARDWARE; (C) AVAILABILITY OR ACCURACY OF ANY DATA AVAILABLE THROUGH THE SUBSCRIPTION SOFTWARE OR SERVICES, OR INTERPRETATION, USE, OR MISUSE THEREOF; (D) TRACKING AND LOCATION-BASED SERVICES; OR (E) BETA SERVICES.

**6. Motorola as a Controller or Joint Controller.** In all instances where Motorola acts as a controller of data, it will comply with the applicable provisions of the Motorola Privacy Statement at [https://www.motorolasolutions.com/en\\_us/about/privacy-policy.html#privacystatement](https://www.motorolasolutions.com/en_us/about/privacy-policy.html#privacystatement), as may be updated from time to time. Motorola holds all Customer Contact Data as a controller and shall Process such Customer Contact Data in accordance with the Motorola Privacy Statement. In instances where Motorola is acting as a joint controller with Customer, the Parties will enter into a separate Addendum to the Agreement to allocate the respective roles as joint controllers.

## Carrier Flowdowns

If AT&T, the AT&T flowdowns, which may be found at [https://www.motorolasolutions.com/content/dam/msi/docs/msi-standards\\_terms-conditions/apx\\_next\\_att\\_flowdowns\\_for\\_customer\\_agreement.pdf](https://www.motorolasolutions.com/content/dam/msi/docs/msi-standards_terms-conditions/apx_next_att_flowdowns_for_customer_agreement.pdf), apply:

If Verizon, the Verizon Flowdowns, which may be found at [https://www.motorolasolutions.com/content/dam/msi/docs/msi-standards\\_terms-conditions/apx-next\\_verizon\\_flowdowns\\_customer\\_agreement-exhibit-a-ssa.pdf](https://www.motorolasolutions.com/content/dam/msi/docs/msi-standards_terms-conditions/apx-next_verizon_flowdowns_customer_agreement-exhibit-a-ssa.pdf), apply:



<p>California Department of Justice <b>CALIFORNIA JUSTICE</b> INFORMATION SERVICES DIVISION Joe Dominic, Chief</p> 	<h1>INFORMATION BULLETIN</h1>	
<p><i>Subject:</i> <b>Confidentiality of Information from the California Law Enforcement Telecommunications System (CLETS)</b></p>	<p><i>No.</i> 20-09-CJIS</p> <p><i>Date:</i> 10-12-2020</p>	<p><i>Contact for information:</i> <b>CLETS Administration Section</b> <a href="mailto:CAS@doj.ca.gov">CAS@doj.ca.gov</a> (916) 210-4240</p>

**TO: ALL CLETS SUBSCRIBING AGENCIES**

Law enforcement and criminal justice agencies authorized by the California Department of Justice (CA DOJ) to access the CLETS must adhere to the requirements detailed in the CLETS Policies, Practices and Procedures (PPP) and in the Federal Bureau of Investigation (FBI) Criminal Justice Information Services (CJIS) Security Policy to ensure the confidentiality and integrity of the data therein.<sup>1</sup> More specifically, and as detailed further below, access to certain Criminal Justice Information (CJI) and Personally Identifiable Information (PII) must be limited to authorized personnel; and the transmission of such information must be encrypted. Although generally applicable, the information in this bulletin is particularly relevant to the radio transmission of protected data.

Allowable "access" to CJI and PII, derived from CLETS, is described in CLETS PPP section 1.6.4:

*Only authorized law enforcement, criminal justice personnel or their lawfully authorized designees may use a CLETS terminal or have access to information derived from CLETS. Any information from the CLETS is confidential and for official use only. Access is defined as the ability to hear or view any information provided through the CLETS.*

The FBI and the CA DOJ establish policies and procedures related to the usage and protection of CJI that govern the usage of the CLETS. The policies define CJI, classify them as restricted or unrestricted, and limit the amount and types of information that can be broadcast over unencrypted radio channels in order to protect sensitive CJI and PII.

Generally, PII is information that can be used to distinguish or trace an individual's identity, such as an individual's first name, or first initial, and last name in combination with any one or more specific data elements (see FBI CJIS Security Policy section 4.3.). Data elements include Social Security number, passport number, military identification (ID) number and other unique ID numbers issued on a government document. The most common data elements encountered during field operations include a driver license number or ID number.

The transmission of sensitive CJI and PII must be encrypted pursuant to the FBI CJIS Security Policy sections 5.10 and 5.13; and access may only be provided to authorized individuals as defined under the CLETS PPP and the FBI CJIS Security Policy.

<sup>1</sup> For reference, please refer to the CLETS PPP at <https://oag.ca.gov/sites/default/files/clets-ppp%2012-2019.pdf> and the FBI CJIS Security Policy at [https://www.fbi.gov/file-repository/cjis\\_security\\_policy\\_v5-9\\_20200601.pdf/view](https://www.fbi.gov/file-repository/cjis_security_policy_v5-9_20200601.pdf/view). See also Government Code section 15150 et seq. and California Code of Regulations, title 11, section 703.

Compliance with these requirements can be achieved using any of the following:

- Encryption of radio traffic pursuant to FBI CJIS Security Policy sections 5.10.1.2, 5.10.1.2.1, and 5.13.1. This will provide the ability to securely broadcast all CJI (both restricted and unrestricted information) and all combinations of PII.
- Establish policy to restrict dissemination of specific information that would provide for the protection of restricted CJI database information and combinations of name and other data elements that meet the definition of PII. This will provide for the protection of CJI and PII while allowing for radio traffic with the information necessary to provide public safety.

If your agency is not currently in compliance with the requirements outlined herein, please submit an implementation plan to the CA DOJ, CLETS Administration Section, no later than December 31, 2020. The plan must be on agency letterhead and signed by the Agency Head (e.g., Sheriff, Chief); include a detailed description of how radio communications will be brought into compliance (e.g., encryption), or how the risks will be mitigated through policy if unable to implement the required technology; and must include the projected timeline as to when the issue will be resolved.

For questions about this bulletin, contact the CLETS Administration Section at [CAS@doj.ca.gov](mailto:CAS@doj.ca.gov) or (916) 210-4240.

Sincerely,



JOE DOMINIC, Chief  
California Justice Information Services Division

For XAVIER BECERRA  
Attorney General



**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**BUDGET**  
**FISCAL YEAR 2021-22**

**Revenues**

Operating payments	\$ 6,840,000
Service payments	1,260,000
Interest	100,000
<b>Total revenues</b>	<b><u>8,200,000</u></b>

**Expenses**

Administration	452,000
Audit fees	20,000
Insurance	42,000
Legal	20,000
Lease	71,000
Licenses and permits	30,000
Membership fees	10,000
Maintenance	3,747,000
Security	15,000
Utilities	210,000
Website hosting	4,000
<b>Total operating expenses</b>	<b><u>4,621,000</u></b>
Capital	1,964,000
Debt Service	650,000
<b>Total expenses</b>	<b><u>7,235,000</u></b>
<b>Net Income</b>	<b><u>\$ 965,000</u></b>

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**  
**EXPENDITURE DETAIL**  
**FISCAL YEAR 2021-2022**

<b>OPERATING EXPENSES</b>	<b>FY20-21 Final Budget</b>	<b>FY20-21 Projected</b>	<b>FY21-22 Budget</b>	<b>Change FY21 vs FY22</b>
Administration				
Executive director	\$ 244,000	\$ 235,480	\$ 263,000	\$ (27,520)
Administrative assistant	40,000	14,936	40,000	(25,064)
Planning	134,000	-	134,000	(134,000)
Travel	5,000	-	5,000	(5,000)
Miscellaneous	10,000	1,975	10,000	(8,025)
Audit fees	20,000	17,160	20,000	(2,840)
Insurance	40,000	35,049	42,000	(6,951)
Legal	20,000	647	20,000	(19,353)
Lease	70,000	65,231	71,000	(5,769)
Licenses and permits	30,000	3,115	30,000	(26,885)
Membership fees	10,000	8,792	10,000	(1,208)
Maintenance				
Service agreement	1,080,000	1,077,595	1,095,000	(17,405)
Software maintenance (SUA II)	974,000	966,384	977,000	(10,616)
Network administration	262,000	261,415	267,000	(5,585)
HVAC maintenance	21,000	21,128	25,000	(3,872)
Generator maintenance	42,000	39,276	53,000	(13,724)
ALCO general maintenance	600,000	600,000	600,000	-
COCO general maintenance	230,000	227,397	265,000	(37,603)
CSI telecommunications	200,000	83,300	200,000	(116,700)
Microwave maintenance	181,000	240,109	250,000	(9,891)
Miscellaneous	15,000	4,971	15,000	(10,029)
Security	12,000	11,953	15,000	(3,047)
Utilities	210,000	174,067	210,000	(35,933)
Website hosting	4,000	3,117	4,000	(883)
<b>Total expenses</b>	<b>4,454,000</b>	<b>4,093,098</b>	<b>4,621,000</b>	<b>(527,902)</b>
<b>CAPITAL EXPENDITURES</b>				
TDMA upgrade	1,664,000	1,663,030	1,664,000	(970)
DC power upgrade	250,000	250,000	250,000	-
Control stations	-	-	50,000	(50,000)
<b>Total expenditures</b>	<b>1,914,000</b>	<b>1,913,030</b>	<b>1,964,000</b>	<b>(50,970)</b>
<b>DEBT SERVICE</b>				
Principal	492,000	492,000	512,000	(20,000)
Interest	158,000	157,464	138,000	19,464
<b>Total expenses</b>	<b>\$ 650,000</b>	<b>\$ 649,464</b>	<b>\$ 650,000</b>	<b>\$ (536)</b>

1. Motorola service agreement increased due to a new 4 year contract
2. Network administration contract increased
3. TDMA Upgrade Expense is the annual payment for the Change Order approved by the Board of Directors
4. DC Power Upgrade Expense is an annual amount to replace the batteries in various locations

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**  
**PROJECTED CASH RESERVE BALANCES**  
**FISCAL YEAR 2021-2022**

	<b>FY20-21</b>	<b>FY20-21</b>	<b>FY21-22</b>
	<b>Final Budget</b>	<b>Projected</b>	<b>Budget</b>
<b>Operating Reserve</b>			
Beginning Balance	\$ 2,012,311	\$ 2,012,311	\$ 2,046,549
Operating Payments	6,450,000	6,838,462	6,840,000
Initial Payments	-	65,400	-
Interest	188,000	124,300	100,000
Operating Expenses	(4,454,000)	(4,093,098)	(4,621,000)
Transfer to Capital Reserve	(1,969,311)	(2,900,826)	(2,055,049)
<b>Ending Balance</b>	<b>2,227,000</b>	<b>2,046,549</b>	<b>2,310,500</b>
 <b>Debt Service Reserve</b>			
Beginning Balance	1,000,000	1,000,000	1,000,000
Service Payments	1,232,000	1,259,256	1,260,000
Debt Service	(650,000)	(649,464)	(650,000)
Transfer to Capital Reserve	(582,000)	(609,792)	(610,000)
<b>Ending Balance</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>
 <b>Capital Reserve</b>			
Beginning Balance	8,588,224	8,588,224	10,185,812
Transfer In	2,551,311	3,510,618	2,665,049
Capital	(1,914,000)	(1,913,030)	(1,964,000)
<b>Ending Balance</b>	<b>9,225,535</b>	<b>10,185,812</b>	<b>10,886,861</b>
 <b>Total Reserve Balance</b>	<b>\$ 12,452,535</b>	<b>\$ 13,232,361</b>	<b>\$ 14,197,361</b>

1. Operating Reserve Balance is equal to 50% of the next fiscal years Operating Budget
2. Debt Reserve Balance is set to equal \$1,000,000 every fiscal year
3. Capital Reserve Balance is the projected remaining cash after the Operating and Debt Reserve requirements have been met

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**  
**10 YEAR CASH FLOW PROJECTION**

	FY 2020-21 Projected	FY 2021-22 Budget	FY 2022-23 Forecast	FY 2023-24 Forecast	FY 2024-25 Forecast	FY 2025-26 Forecast	FY 2026-27 Forecast	FY 2027-28 Forecast	FY 2028-29 Forecast	FY 2029-30 Forecast
<b>Operating Reserve</b>										
Balance - beginning	2,012,311	2,046,549	2,310,500	2,369,885	2,432,228	2,505,195	2,588,851	2,657,761	2,737,494	2,828,119
Receipts from members	7,028,162	6,940,000	6,940,000	6,940,000	6,940,000	6,940,000	6,940,000	6,940,000	6,940,000	6,940,000
Payments to suppliers	(4,093,098)	(4,621,000)	(4,739,770)	(4,864,456)	(5,010,390)	(5,177,702)	(5,315,522)	(5,474,988)	(5,656,237)	(5,808,415)
Transfer to Capital Reserve	(2,900,826)	(2,055,049)	(2,140,845)	(2,013,201)	(1,856,643)	(1,678,642)	(1,555,568)	(1,385,279)	(1,193,139)	(1,055,496)
<b>Balance - ending</b>	<b>2,046,549</b>	<b>2,310,500</b>	<b>2,369,885</b>	<b>2,432,228</b>	<b>2,505,195</b>	<b>2,588,851</b>	<b>2,657,761</b>	<b>2,737,494</b>	<b>2,828,119</b>	<b>2,904,208</b>
<b>Debt Service Reserve</b>										
Balance - beginning	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	-	-
Service payment	1,259,256	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	1,260,000	-	-
Principal	(492,000)	(492,000)	(512,000)	(532,000)	(553,000)	(576,000)	(600,000)	(623,000)	-	-
Bond interest	(157,464)	(158,000)	(138,000)	(118,000)	(97,000)	(74,000)	(50,000)	(27,000)	-	-
Transfer to Capital Reserve	(609,792)	(610,000)	(610,000)	(610,000)	(610,000)	(610,000)	(610,000)	(610,000)	-	-
<b>Balance - ending</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>1,000,000</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Capital Reserve</b>										
Balance - beginning	8,588,224	10,185,812	10,886,861	11,723,706	12,432,907	12,985,550	13,360,192	13,611,760	13,693,039	14,636,177
Transfer In	3,510,618	2,665,049	2,750,845	2,623,201	2,466,643	2,288,642	2,165,568	1,995,279	1,193,139	1,055,496
Capital	(1,913,030)	(1,964,000)	(1,914,000)	(1,914,000)	(1,914,000)	(1,914,000)	(1,914,000)	(1,914,000)	(250,000)	(250,000)
<b>Balance - ending</b>	<b>10,185,812</b>	<b>10,886,861</b>	<b>11,723,706</b>	<b>12,432,907</b>	<b>12,985,550</b>	<b>13,360,192</b>	<b>13,611,760</b>	<b>13,693,039</b>	<b>14,636,177</b>	<b>15,441,673</b>
<b>TOTAL RESERVE BALANCE</b>	<b>13,232,361</b>	<b>14,197,361</b>	<b>15,093,591</b>	<b>15,865,135</b>	<b>16,490,745</b>	<b>16,949,043</b>	<b>17,269,521</b>	<b>16,430,533</b>	<b>17,464,296</b>	<b>18,345,881</b>

**SUPPLEMENTARY SCHEDULE FOR PAYMENTS TO SUPPLIERS**

Administration	(252,392)	(452,000)	(465,560)	(479,527)	(493,913)	(508,730)	(523,992)	(539,712)	(555,903)	(572,580)
Audit fees	(17,160)	(20,000)	(20,600)	(21,218)	(21,855)	(22,511)	(23,186)	(23,882)	(24,598)	(25,336)
Insurance	(35,049)	(42,000)	(43,260)	(44,558)	(45,895)	(47,272)	(48,690)	(50,151)	(51,656)	(53,206)
Legal	(647)	(20,000)	(20,600)	(21,218)	(21,855)	(22,511)	(23,186)	(23,882)	(24,598)	(25,336)
Lease	(65,231)	(71,000)	(73,130)	(75,324)	(77,584)	(79,912)	(82,309)	(84,778)	(87,321)	(89,941)
Licenses and permits	(3,115)	(30,000)	(30,900)	(31,827)	(32,782)	(33,765)	(34,778)	(35,821)	(36,896)	(38,003)
Membership fees	(8,792)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)
Maintenance										
Customer svc. agmt.	(1,077,595)	(1,095,000)	(1,099,000)	(1,131,970)	(1,165,929)	(1,200,907)	(1,236,934)	(1,274,042)	(1,312,263)	(1,351,631)
SUA II	(966,384)	(977,000)	(1,006,310)	(1,036,499)	(1,067,594)	(1,099,622)	(1,132,611)	(1,166,589)	(1,201,587)	(1,237,635)
System management	(261,415)	(267,000)	(267,000)	(275,010)	(283,260)	(291,758)	(300,511)	(309,526)	(318,812)	(328,376)
HVAC	(21,128)	(25,000)	(25,750)	(26,523)	(27,319)	(28,139)	(28,983)	(29,852)	(30,748)	(31,670)
Generators	(39,276)	(53,000)	(71,590)	(56,228)	(57,915)	(76,652)	(61,442)	(63,285)	(82,184)	(67,140)
ALCO maintenance	(600,000)	(600,000)	(618,000)	(636,540)	(655,636)	(675,305)	(695,564)	(716,431)	(737,924)	(760,062)
COCO maintenance	(227,397)	(265,000)	(272,950)	(281,139)	(289,573)	(298,260)	(307,208)	(316,424)	(325,917)	(335,695)
CSI telecommunications	(83,300)	(200,000)	(206,000)	(212,180)	(218,545)	(225,101)	(231,854)	(238,810)	(245,974)	(253,353)
Microwave maintenance	(240,109)	(250,000)	(257,500)	(265,225)	(273,182)	(281,377)	(289,818)	(298,513)	(307,468)	(316,692)
Miscellaneous	(4,971)	(15,000)	(15,450)	(15,914)	(16,391)	(16,883)	(17,389)	(17,911)	(18,448)	(19,001)
Security	(11,953)	(15,000)	(15,450)	(15,914)	(16,391)	(16,883)	(17,389)	(17,911)	(18,448)	(19,001)
Utilities	(174,067)	(210,000)	(216,300)	(222,789)	(229,473)	(236,357)	(243,448)	(250,751)	(258,274)	(266,022)
Web site hosting	(3,117)	(4,000)	(4,120)	(4,244)	(4,371)	(4,502)	(4,637)	(4,776)	(4,919)	(5,067)
Payments to suppliers	<b>(4,093,098)</b>	<b>(4,621,000)</b>	<b>(4,739,770)</b>	<b>(4,864,456)</b>	<b>(5,010,390)</b>	<b>(5,177,702)</b>	<b>(5,315,522)</b>	<b>(5,474,988)</b>	<b>(5,656,237)</b>	<b>(5,808,415)</b>

**RESOLUTION NO. 21-\_\_**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

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**AUTHORIZING THE CHAIR TO EXECUTE, AND THE EXECUTIVE  
DIRECTOR TO IMPLEMENT, A CONTRACT CHANGE ORDER WITH  
MOTOROLA SOLUTIONS, INC. FOR PURCHASE OF AES 256 ENCRYPTION  
FOR 182 DISPATCH CONSOLES**

**WHEREAS**, the East Bay Regional Communications System Authority (“EBRCSA”) has contracted with Motorola Solutions, Inc. (“Motorola”) for the purchase of communications equipment, maintenance, and related services in connection with a P-25 compliant communications system serving Alameda and Contra Costa counties and individual political jurisdictions therein (the “System”); and

**WHEREAS**, the Department of Justice (DOJ) has required Law Enforcement Agencies to be Encrypted per DOJ Bulletin 20-09-CJIS and EBRCSA Agencies have committed to comply by June 2023; and

**WHEREAS**, the cost of Encryption for the EBRCSA Dispatch Consoles Project is \$1,620,183.00; and

**WHEREAS**, funds are available for these purposes, and good cause appears therefor.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Board of Directors of the East Bay Regional Communications System Authority does hereby approve a Change Order to the EBRCSA Communications System Agreement with Motorola, Solutions, Inc., for the purchase of Encryption of 182 Consoles to Agencies to the DOJ Requirement in Bulletin 20-09-CJIS and authorize its Chair to execute such change order; and authorize its Executive Director to take such further action as may be necessary and appropriate to implement such change order.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 3<sup>rd</sup> day of December 3, 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:** \_\_\_\_\_  
Caroline Soto, Secretary

**RESOLUTION NO. 21-XX**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

\*\*\*\*\*

**ADOPTING AND IMPLEMENTING AN ADJUSTMENT TO ADMINISTRATIVE  
BUDGET FOR FISCAL YEAR 2021/2022**

**WHEREAS**, on May 7, 2021, the East Bay Communications System Authority (“EBRCSA”) Board of Directors adopted the Fiscal Year 2021/2022 Administrative Budget for the EBRCSA; and

**WHEREAS**, the EBRCSA Finance Committee and Operations Committee have identified additional items requiring the establishment of a change in line item for the purchase of Encryption for Dispatch Consoles owned by EBRCSA and have recommended that the EBRCSA Board of Directors so adjust the Fiscal Year 2021/2022 Administrative Budget; and

**WHEREAS**, the EBRCSA Board of Directors Finance Committee has identified an increase to the FY 2021/2022 budget; and

**WHEREAS**, the EBRCSA Board of Directors has reviewed and considered the proposed budget adjustment, has reviewed EBRCSA’s current revenues and expenses, has heard all comment thereon, and finds good cause therefor.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Board of Directors of the East Bay Regional Communications System Authority does hereby adopt a budget adjustment to the Fiscal Year 2021/2022 Administrative Budget, Operating Expenses, for the EBRCSA, by increasing the Administration, Planning for the purchase of Encryption for Dispatch Consoles owned by EBRCSA System, and authorizes the Executive Director to implement such change to the Fiscal Year 2021/2022 Administrative Budget.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 3<sup>rd</sup> day of December, 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:** \_\_\_\_\_

Caroline Soto, Secretary



**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**AGENDA ITEM NO. 9.5.**

**AGENDA STATEMENT  
BOARD OF DIRECTORS MEETING  
MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Sheriff G. Ahern, Board Chair  
East Bay Regional Communications System Authority

**SUBJECT:** Adopt a Resolution Approving Change Order Number [34] to the System Update Agreement II with Motorola Solutions, Inc. Authorizing Increase in Scope of Work and Cost for the Upgrade of the Microwave Network, Multi-Protocol Label Switching, and Network Transition from T1 Circuits to Ethernet.

**RECOMMENDATIONS:**

1. Adopt a approving Change Order #34 to the System Update Agreement II (“SUA II”)with Motorola Solutions Inc. (“Motorola”) for the upgrade of the microwave network, multi-protocol label switching (“MPLS”), and network transition from T1 circuits to ethernet.
2. Adopt a resolution adopting and implementing a budget adjustment to the EBRCSA FY21/22 budget to reflect the increase in cost of this service.

**SUMMARY/DISCUSSION:**

The Board previously approved Change Order Number 33 to the SUA II in order to cover the costs of transition from Land Mobile Radio (LMR) to a Ethernet/MPLS System , on December 4, 2020. EBRCSA has been working with Motorola Solutions Inc. and its subcontractor Aviat to identify the equipment and changes necessary for the transition to the Ethernet/MPLS System.

EBRCSA’s System was built utilizing existing microwave communications that were provided by the Members and a microwave purchase in 2004 via the Super Urban Area Security Initiative Grant.

The System operates well. However, the age of the equipment in some cases is 20 years old and the remaining life expectancy is approximately 5 years. A detailed analysis of all the equipment being used in the current System was performed during the transition. Through such analysis, several sites were identified which were not included in proposal from Motorola Solutions Inc. approved pursuant to Change Order Number 33. Unfortunately, the records available to Motorola in its development of the proposal for Change Order Number 33 did not include some additional equipment and sites added as Members joined EBRCSA. In addition, additional sites and equipment were identified when Aviat staff performed site visits with the appropriate Radio Shop Personnel. The sites visits were not performed prior to the Board's approval of the Motorola's proposal for Change Order Number 33.

On August 18, 2021, Motorola Solutions, Aviat, the Alameda and Contra Costa Counties Radio Shops and the Executive Director had a meeting to discuss the additional scope of work and equipment necessary to complete the transition and developed the following list sites to be covered and equipment needed:

- a. Nicol Knob Path: Adding 2 complete hops into the EBRCSA loop.
- b. Upgrade existing ODU300 to IRU600v4 and ODU600v2; 5 sites/4 Hops Hayward Annex, Pinole PD, Shadybrook, Marsh Creek. And Highland Peak.
- c. Alameda Co., three additional Paths; Adding Oakland Housing Authority, Hayward PD, and Garin to the network.
- d. MPLS - SAR for Pinole PD.
- e. Spares for newly added equipment types.

#### **FINANCIAL IMPACT:**

Proposed Change Order #34 is estimated to cost \$961,877.35. Two financing options from Motorola were provided with corresponding Lease extensions. However, the Finance Committee recommended the Board approve Change Order #34 and appropriate existing Operating Funds rather than financing through Motorola. Staff concurs with this recommendation.

#### **COMMITTEE ACTION:**

The Operations Committee recommended that the Board approve Change Order #34.

The Finance Committee also recommended that the Board approve Change Order #34 and further recommended that the Board authorize payment of the \$961,877.35 costs associated with Change Order Number 34 rather than finance the cost of Change Order Number 34 through a lease amendment.

#### **RECOMMENDED ACTION:**

For all the foregoing reasons, it is recommended that the Board of Directors of the East Bay Regional Communications System Authority adopt the Resolution set forth in Attachment A hereto approving Change Order Number 34, authorizing the Chair to execute Change Order

Number 34 and authorize the Executive Director to take such further action as may be necessary and appropriate to implement Change Order Number 34.

It is further recommended that the Board of Directors adopt a resolution adopting and implementing a budget adjustment to the EBRCSA FY21/22 budget to reflect the increase in cost of this service.

Attachments:

Exhibit "A" – Motorola Change Order #34

Exhibit "B" – Aviat Networks Additional Site Review

Exhibit "C" – Aviat Microwave Path Survey Report

Exhibit "D" – Equipment List for Statement of Work

Exhibit "E" – Change Order #33 Microwave and MPLS Implementation

Exhibit "F" – Original Motorola Quote Ethernet/MPLS

Exhibit "G" – Resolution Change Order [34]

Exhibit "H" - Resolution Adjustment to Administrative Budget for Change Order [34]

5019959.1



**Changes in Equipment:** *(additions, deletions or modifications)* **Include attachments if needed**

MPLS SAR for Pinole site, Networking equipment, microwave radio and associated RF antenna system for added sites. Refer to the attached "Additional Sites Microwave and MPLS SOW"

**Changes in Services:** *(additions, deletions or modifications)* **Include attachments if needed**

Path/Site survey, License application, Design, Integration, and Migration services. No Maintenance services included in this Change Order. Refer to the attached "Additional Sites Microwave and MPLS SOW".

**Schedule Changes:** *(describe change or N/A)*

No change

**Pricing Changes:** *(describe change or N/A)*

Description	Price (USD)
<b>Equipment</b>	
MW Equipment	\$ 517,798.00
MPLS Equipment	\$ 16,403.00
<b>Equipment Subtotal</b>	<b>\$ 534,201.00</b>
<i>Equipment Discount - Contract Level</i>	<i>\$ (80,950.30)</i>
<i>Equipment Credit</i>	<i>\$ (58,981.00)</i>
<b>Equipment Total (after Contract Discount)</b>	<b>\$ 394,269.70</b>
<b>System Integration Services</b>	<b>\$531,138</b>
<b>Project Total</b>	<b>\$ 925,407.40</b>
Estimated Sales Tax on Equipment (9.25%)	\$36,469.95
<b>Project Total (with all Discounts and Tax)</b>	<b>\$ 961,877.35</b>

Inclusive of the credit from the reduction of equipment post detailed design review equal to \$ 58,981.00, Equipment and Services totaling \$ 961,877.35 including estimated taxes are being added to the contract.

**Customer Responsibilities:** *(describe change or N/A)*

Approve and sign Change Order # 34

**Payment Schedule for this Change Order:**  
*(describe new payment terms applicable to this change order)*

Except for a payment that is due on the Effective Date, Customer will make payments to Motorola within thirty (30) days after the date of each invoice. Customer will make payments when due in the form of a check, cashier's check, or wire transfer drawn on a U.S. financial institution and in accordance with the following milestones.



1. 25% of the Change Order upon Change Order Approval
2. 65% of the Change Order upon Shipment of Equipment
3. 10% of the Change Order upon Final Acceptance

Overdue invoices will bear simple interest at the rate of ten percent (10%) per annum, unless such rate exceeds the maximum allowed by law, in which case it will be reduced to the maximum allowable rate. Motorola reserves the right to make partial shipments of equipment and to request payment upon shipment of such equipment. In addition, Motorola reserves the right to invoice for installations or civil work completed on a site-by-site basis, when applicable.

Unless amended above, all other terms and conditions of the Contract shall remain in full force. If there are any inconsistencies between the provisions of this Change Order and the provisions of the Contract, the provisions of this Change Order will prevail.

IN WITNESS WHEREOF the parties have executed this Change Order as of the last date signed below.

**Motorola Solutions, Inc.**

**EBRCSA**

By:

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

Printed Name: FRANK MULLER

Printed Name: \_\_\_\_\_

Title: West SI Director

Title: \_\_\_\_\_

Date: 10/15/2021

Date: \_\_\_\_\_

Reviewed by:   
Tet Sobingsobing  
Motorola Solutions Project Manager

Date: 10/08/2021

# EBRCSA Change Order # 34

## Additional Sites Microwave and MPLS SOW

### 1.0 Nichol Knob Paths

During the final design review, it was discovered that the two EBRCSA microwave paths were missing. These paths were not included in the original RFP but are vital to the EBRCSA Contra Costa County loop. The missing paths are Bald Peak to Nichol Knob and Nichol Knob to Cummings Pk. The Nichol Knob to El Cerrito and Nichol Knob to Richmond paths were included original project as part of the Richmond Mini-Loop System.

Refer to updated system layout.

Site: Bald Peak	Equipment Added	Services Added
Path: to Nichol Knob	IRU600v4	Program Management
	INUe (Intelligent Node Unit)	Project/Site Engineering
	NPC	Frequency Coordination & Licensing,
	RAC70	Config Engineering / Drafting
	DAC GE3	Network/System Engineering
	DAC OC-3	Radio Installation – Turn-up and Testing

Site: Nichol Knob	Equipment Added	Services Added
Path: to Bald Peak	IRU600v4	Program Management
	INUe (Intelligent Node Unit)	Project/Site Engineering
	NPC	Frequency Coordination & Licensing,
	RAC70	Config Engineering / Drafting
	DAC GE3	Network/System Engineering
	DAC OC-3	Radio Installation – Turn-up and Testing

Site: Nichol Knob	Equipment Added	Services Added
Path: to Cummings	IRU600v4	Program Management
	INUe (Intelligent Node Unit)	Project/Site Engineering
	NPC	Frequency Coordination & Licensing,
	RAC70	Config Engineering / Drafting
	DAC GE3	Network/System Engineering
	DAC OC-3	Radio Installation – Turn-up and Testing

Site: Cummings	Equipment Added	Services Added
Path: to Nichol Knob	IRU600v4	Program Management
	INUe (Intelligent Node Unit)	Project/Site Engineering
	NPC	Frequency Coordination & Licensing,
	RAC70	Config Engineering / Drafting
	DAC GE3	Network/System Engineering
	DAC OC-3	Radio Installation – Turn-up and Testing

## EBRCSA Change Order # 34

### Additional Sites Microwave and MPLS SOW

#### 2.0 Upgrade Existing ODU300 to ODU600v2 radios

During the engineering process of adding three additional paths to the network per EBRCSA requests (Section 2.10), it was discovered that five sites were using the Harris/Stratex (Aviat Networks) ODU300 radios. These radios are end of life and will no longer be supported by Aviat by mid-next year 2022. This scope will replace the ODU300 radio with ODU600v2 radios.

Refer to updated system layout.

Site: Highland Pk	Equipment Added	Services Added
Path: to Los Vaqueros	IRU600v4 (qty2)	Program Management
Path: to San Ramon	Waveguide Top-of-Rack ext.	Project/Site Engineering
	INUe License Upgrade	Frequency Coordination & Licensing,
		Config Engineering / Drafting
		Network/System Engineering
		Radio Installation – Turn-up and Testing

Site: Hayward Annex	Equipment Added	Services Added
Path: Coyote	ODUv2 (qty2)	Program Management
	ODUv2 Coupler	Project/Site Engineering
	ODUv2 Remote mount	Frequency Coordination & Licensing,
		Config Engineering / Drafting
		Network/System Engineering
		Radio Installation – Turn-up and Testing

Site: Pinole PD	Equipment Added	Services Added
Path: Turquoise	ODUv2 (qty2)	Program Management
	ODUv2 Coupler	Project/Site Engineering
	ODUv2 Remote mount	Frequency Coordination & Licensing,
		Config Engineering / Drafting
		Network/System Engineering
		Radio Installation – Turn-up and Testing

Site: Shadybrook	Equipment Added	Services Added
Path: Fire Station 85	ODUv2 (qty2)	Program Management
	ODUv2 Coupler	Project/Site Engineering
	ODUv2 Remote mount	Frequency Coordination & Licensing,
		Config Engineering / Drafting
		Network/System Engineering
		Radio Installation – Turn-up and Testing

## EBRCSA Change Order # 34

### Additional Sites Microwave and MPLS SOW

Site: Marsh Creek	Equipment Added	Services Added
Path: Kregor Peak	ODUv2 (qty2)	Program Management
	ODUv2 Coupler	Project/Site Engineering
	ODUv2 Remote mount	Frequency Coordination & Licensing,
		Config Engineering / Drafting
		Network/System Engineering
		Radio Installation – Turn-up and Testing

### 3.0 Alameda County

#### 2.1 Three Additional Paths

Alameda County asked to have three additional paths included in the EBRCSA radio upgrade. The three paths are Lakeside to Oakland Housing Authority, Hayward PD to Garin, Hayward PD to (path TBD/possibly Coyote Hills) The Scope in this section is the equipment and services to engineer and installation to include these three paths into the overall EBRCS project.

Refer to updated system layout.

Site: Oakland Housing Auth	Equipment Added	Services Added
Path: Lakeside	RFS SC3-W100XGT1C	Program Management
	WTM4100 Radio	Project/Site Engineering
	AC/DC POE	Frequency Coordination & Licensing,
	Associated Cables,	Config Engineering / Drafting
	Lightning Arrestors &	Network/System Engineering
	Grounding	Radio Installation – Turn-up and Testing
		Antenna Installation

Site: Lakeside	Equipment Added	Services Added
Path: Oakland Housing Auth	RFS SC3-W100XGT1C	Program Management
	WTM4100 Radio	Project/Site Engineering
	DC Power Cable	Frequency Coordination & Licensing,
	Associated Cables,	Config Engineering / Drafting
	Lightning Arrestors &	Network/System Engineering
	Grounding	Radio Installation – Turn-up and Testing
		Antenna Installation

## EBRCSA Change Order # 34

### Additional Sites Microwave and MPLS SOW

Site: Garin	Equipment Added	Services Added
Path: Hayward PD	IRU600v4	Program Management
	Waveguide Top-of-Rack ext.	Project/Site Engineering
	IRU600v4	Frequency Coordination & Licensing,
	INUe (Intelligent Node Unit)	Config Engineering / Drafting
	NPC	Network/System Engineering
	RAC70	Radio Installation – Turn-up and Testing
	DAC GE3	
	DAC OC-3	

Site: Hayward PD	Equipment Added	Services Added
Path: Garin	IRU600v4	Program Management
	Waveguide Top-of-Rack ext.	Project/Site Engineering
	IRU600v4	Frequency Coordination & Licensing,
	INUe (Intelligent Node Unit)	Config Engineering / Drafting
	NPC	Network/System Engineering
	RAC70	Radio Installation – Turn-up and Testing
	DAC GE3	
	DAC OC-3	

Site: Hayward PD	Equipment Added	Services Added
Path: Coyote Hills	IRU600v4	Program Management
	Waveguide Top-of-Rack ext.	Project/Site Engineering
	IRU600v4	Frequency Coordination & Licensing,
	INUe (Intelligent Node Unit)	Config Engineering / Drafting
	NPC	Network/System Engineering
	RAC70	Radio Installation – Turn-up and Testing
	DAC GE3	Antenna Installation
	DAC OC-3	
	RFS SB6-W60XC	
	W63 Waveguide	

Site: Coyote Hills	Equipment Added	Services Added
Path: Hayward PD	IRU600v4	Program Management
	Waveguide Top-of-Rack ext.	Project/Site Engineering
	IRU600v4	Frequency Coordination & Licensing,
	INUe (Intelligent Node Unit)	Config Engineering / Drafting
	NPC	Network/System Engineering
	RAC70	Radio Installation – Turn-up and Testing
	DAC GE3	Antenna Installation
	DAC OC-3	
	RFS SB6-W60XC	
	EW63 Waveguide	



# AVIAT NETWORKS

East Bay Regional Communications  
System Authority

Additional Site Review

Hayward, OHA, Garin & Carquinez

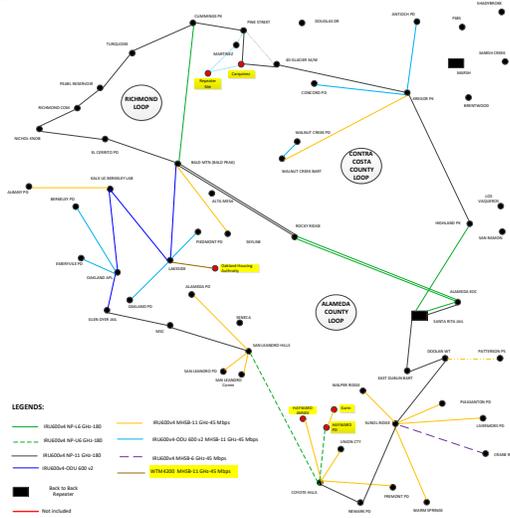
Aug 2021

## Meeting Notes from Design Review Meeting

### Attendees:

- Tom McCarthy – EBRCS
- Rick Blanchard – Alameda County
- Harlan Turner – Alameda County
- Randy DeMerse– Contra Costa County
- Tet Sobingsobing – Motorola
- Nicholas Petterson – Motorola
- Felix Gurule – Aviat Networks
- Lehang Do – Aviat Networks
- Girindra Lone – Aviat Networks
- Alan Zecher – Aviat Networks (Host)

# SYSTEM LAYOUT

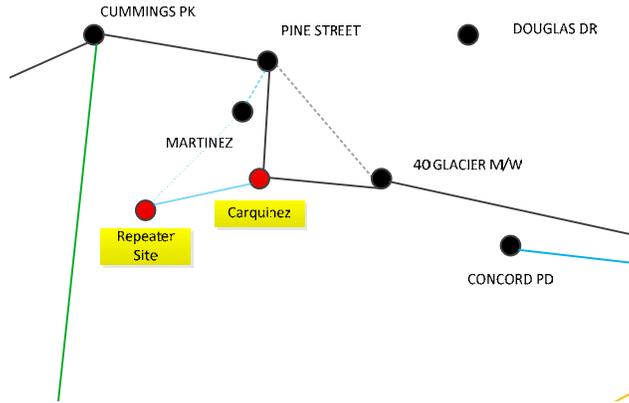


## Meeting Topic:

Adding additional Hops to existing Project Design.

- Contra Costa County
  - Carquinez Site
- Alameda County
  - Hayward PD
  - Garin
  - Oakland Housing Authority (OHA)

# SYSTEM LAYOUT



# Carquinez

## Need to Define Scope :

- Path Survey
- Engineering Design Drawing Packages to Review
- Antenna Installation
  - Microwave
  - LMR?
- Material List



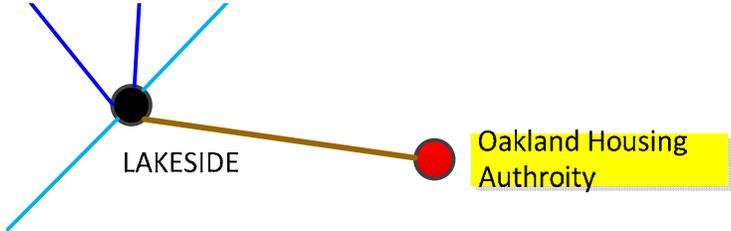
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August 2021

AVIAT TWC

- Contra Costa County
  - Carquinez Site
    - Site Requires a new Path Survey.
      - Aviat to quote for a Path Survey
        - Aviat needs a PO from Motorola before Aviat can perform Path Survey
    - County and CSI to share design drawing with Aviat
    - Aviat will quote installation of microwave antennas for new site and far ends
    - Aviat will supply new antennas for Carquinez facing Martinez and Martinez PD
    - County will supply new antenna for main loop at Carquinez and far ends of path
    - County will be responsible for LMR antennas
    - Depending upon frequency coordination new ACU may be required.
    - All frequency coordination for Carquinez will be completed by CSI / County. .

# SYSTEM LAYOUT



# Oakland Housing Authority (OHA)

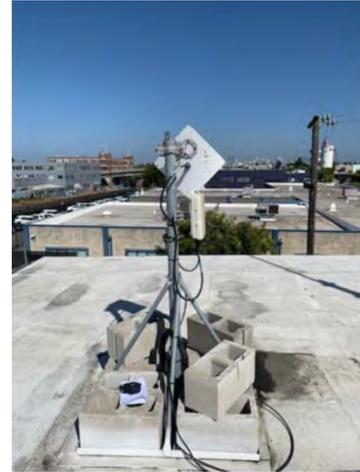
- Replacing the existing Airmux -400



# Oakland Housing Authority (OHA)

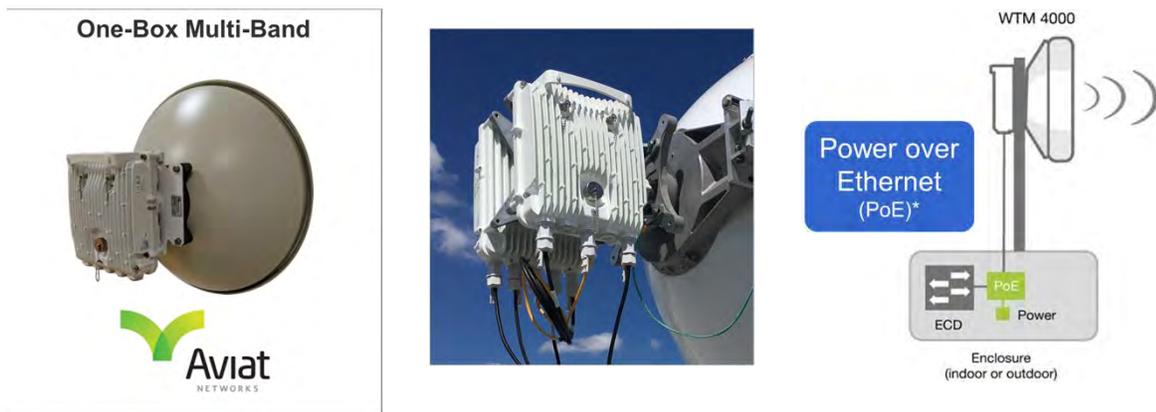


- Path & Site Survey
- Frequency Coordination
  - New frequency required
- No DC Power at OHA



- Site Requires a new Path and Site Survey.
  - Aviat to quote for a Path & Site Survey
    - Aviat needs a PO from Motorola before Aviat can perform Surveys
- Aviat will quote for frequency coordination for new radios.
  - Existing radios appear to be unlicensed
- No DC power at site, no room to for new DC Plant

# Oakland Housing Authority (OHA)



Recommending to use the WTM400 radio with a POE.

- Aviat is proposing to use the WTM4000 Radio for the path.
- At OHA a AC/DC POE will be used to power the radio
- At Lakeside the WTM will be powered from the DC power plant
- Alameda County will check on and supply a AC UPS to power the POE,
- Unknown if NetBoss will support and monitor the WTM Radios.
  - NetBoss is no longer supported by Aviat
  - County will need to check with NetBoss on WTM Radio Support.

# WTM 4000

Single Platform, Multi-Channel, Multi-Band Architecture

5 to 80 GHz  
in a common platform

Unique modular dual-  
transceiver design

Flexible frequency band  
combinations

Carrier Aggregation (A2C)

Unique Single-Box  
Multi-Band solution

Multi-Carrier High  
Capacity Trunking



Short-Haul urban links up  
to 20 Gbit/s

Long Haul links up to  
10 Gbit/s

Leading System Gain  
performance

Integrated Space Diversity

Built-in Carrier Ethernet,  
IP/MPLS and SDN

Direct-Mount Single- or  
Multi-Band antenna

## OPTIMIZED FOR ALL-OUTDOOR

**Simplified Solution** - only one box (per end) to purchase, ship, deploy and maintain (compared to multiple units and cards for split-mount)

**Highly Integrated** – supports multi-channel configurations with fewer cables, integrated antenna coupling and interface

**Zero Footprint** - No indoor rack space required. Can be deployed at all-outdoor sites where no cabinet space is available for an IDU

**Direct Connection** – to your base station or existing switch/router

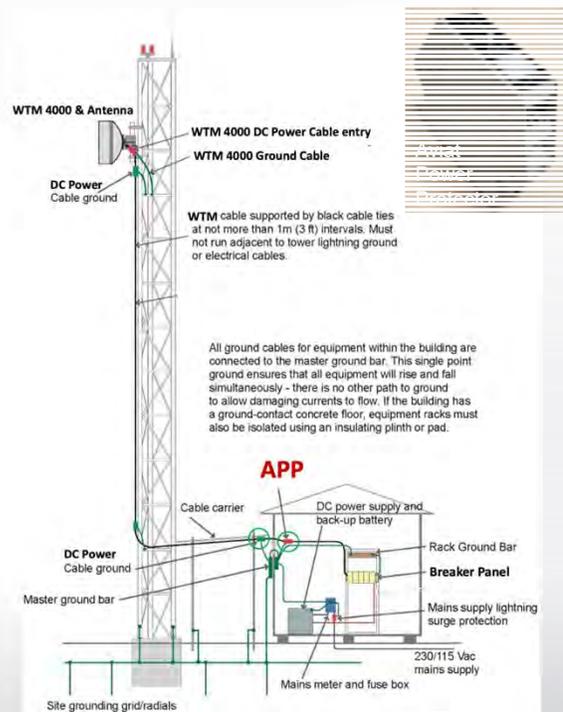
**Lower OPEX** - for leased sites (no indoor rack or outdoor cabinet required)



# Lightning Protection

## Preventing surge related equipment damage

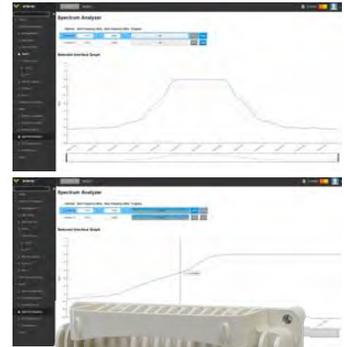
- WTM 4000 includes a built-in Gas Discharge Tube (GDT) protection of the 48V power supply lines to provide a rapid response to lightning surge events
- The GDT is designed to start conducting when a lightning strike increases voltage to more than 700 V, to short the lightning strike to ground
- The Aviat Power Protector (APP) is fitted indoors and works in tandem with the GDT to provide complete protection
- When the current to the WTM is over 3.5A, the APP turns OFF the power supply to the WTM for 3 seconds to prevent GDT lock-up
- After 3 seconds the WTM unit can reboot safely



AVIAT NETWORKS

## WTM 4000 NOW INCLUDES A BUILT-IN SPECTRUM ANALYZER, WHICH GIVES YOU THE POWER TO:

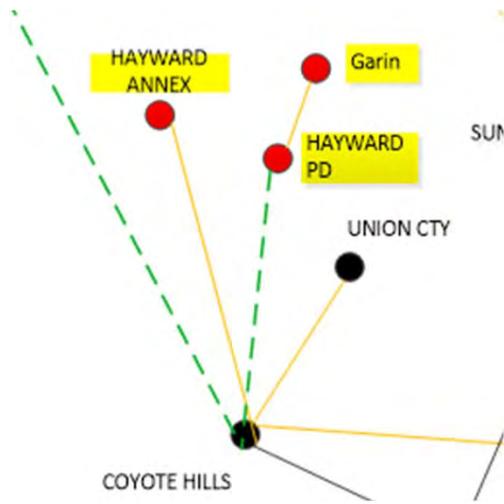
- **Detect** interference
- **Determine** alternative channel options
- **Discuss** elimination of the source with your regulator
- **Deliver** your services, reliably



WTM 4000 Spectrum Analyzer feature is a built-in and license-free diagnostic feature to enable the user to check for potential interfering signals and measure the level of interference across the desired frequency range (limited by the diplexer bandwidth) and check the RSL (received signal level) of the interfering signal in 1.4 MHz steps.



# SYSTEM LAYOUT



## Coyote Hills

- Existing 6GHz licensed path between Coyote Hills and Hayward PD.
- Existing path between Coyote Hills and Hayward Annex
- Recommend upgrading the existing INUe and share with new path to Hayward PD
- New V4 RFU for Hayward PD



- Site Requires a new Path Survey.to verify Motorola path clearance requirement.
  - Aviat to quote for a Path Survey
    - Aviat needs a PO from Motorola before Aviat can perform Surveys
- Plan is to upgrade existing INUe radio for the Hayward Annex path.
- Add a new V4 RFU for the new Hayward PD path.

## Hayward Annex

- Existing path between the Annex and Coyote Hills
- ODU300 are currently used for the path
- Recommend upgrading the ODU300 with ODU600 V2
  - ODU300 are reaching the product lifespan, and soon will no longer be supported



- Discussed upgrading the ODU300 radio, since they are nearing end of life support.
- EBRCS agreed to upgrade the Hayward Annex. and request optional pricing to up the remaining ODU300 in the system.
- Other site that are using ODU300 are:
  - Hayward Annex – qty2
  - Pinole PD – qty2
  - Shadybrook – qty2
  - Marsh Creek – qty 2
  - Highland Peak – Facing San Ramon and Los Vaqueros
  - San Leandro Hill – Facing Seneca.

## Hayward PD

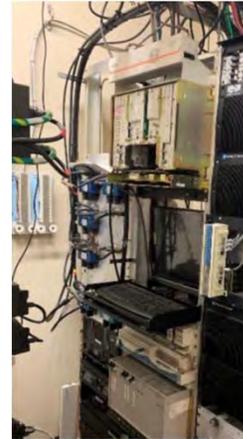


- Existing 6GHz Licensed path between Hayward PD and Coyote Hills.
- Install New:
  - INUe
  - RFU V4
  - New VHLP6-6W

- Site Requires a new Path and Site Survey.
  - Aviat to quote for a Path & Site Survey
    - Aviat needs a PO from Motorola before Aviat can perform Surveys
- Frequency Coordination required to update the existing license for IRU Radio and VHLP6-6W antennas

# Hayward PD

- Path to Garin
  - Replace MDR8000 radio
  - Reuse existing Frequencies.
  - Reuse existing waveguide and Antenna



- New IRU600 V4 radio\

# Garin



- Path to Hayward PD
  - Replace MDR8000 radio
  - Reuse existing Frequencies.
  - Reuse existing waveguide and Antenna

- Site Requires a new Path and Site Survey.
  - Aviat to quote for a Path & Site Survey
    - Aviat needs a PO from Motorola before Aviat can perform Surveys
- Frequency Coordination required to update the existing license for IRU Radio



**Aviat**  
NETWORKS



[WWW.AVIATNETWORKS.COM](http://WWW.AVIATNETWORKS.COM)

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# Microwave Path Survey Report

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Motorola - EBRCSA  
Additional hops  
NA160807-85179

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Release 1.0  
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***Issue Releases***

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# GENERAL

## STATEMENT OF WORK

The following report summarizes the results of a microwave path survey conducted by Aviat Networks, Milpitas, California, for Motorola - EBRCSA. Field survey work was performed on September 16, 2021, by Surveyor - Radyn.

The survey was undertaken to verify site locations and determine antenna sizes and centerlines required to establish a microwave communications system in conformance with customer requirements and current engineering practices.

## SURVEY PROCEDURES

Preliminary path profiles will be drawn based on the supplied site coordinates and contour information extracted from the best available topographic mapping. A field site survey will be conducted to verify site coordinates and elevations based on North American Datum 1983 (NAD83) and gather information related to the proposed radio equipment and antenna locations, site access, and site development constraints. A field path survey will be conducted to verify path profile elevations, measure all natural and manmade potential obstructions and assess the reflective potential of all natural and manmade surfaces. Antenna centerline heights will be calculated for the proposed frequency band by applying suitable clearance criteria based on the propagation characteristics of the geographic area.

Path calculation sheets will then be generated for each hop, based upon the recommended centerline heights. Antenna sizes and the choice of propagation protection diversity will be chosen to meet the required fade margin and the desired path propagation reliability. Propagation outage and reliability calculations will be based on the Vigants model (ref. "Space Diversity Engineering", BSTJ, 1/75).

## DESIGN CRITERIA

Path clearance criteria must be established for each path on the basis of total system performance objectives, economic considerations, and careful analysis of local atmospheric conditions derived from published climatological data, where available, and reported microwave transmission experience pertinent to the area. Antenna heights much greater than actually needed cause an unwarranted increase in system cost, and on paths with significant ground reflections, it can increase the exposure to multipath and ground reflection signal fading. It is desirable to locate the antennas high enough so that even under severe super-standard atmospheric refractive conditions (surface ducting) there is adequate clearance such that signal entrapment does not significantly degrade the fade margin of the path or generate excessive multipath fade activity. The choice of clearance criteria for a microwave path is a balance between cost and performance.

The path clearance criterion as applied to a given geographic area is a function of the degree and direction of atmospheric beam bending and can conveniently be defined by the equivalent earth radius K factor:

$$K = \frac{\text{Effective Earth's Radius}}{\text{Actual Earth's Radius}}$$

The Median Propagation value of  $K = 4/3$  allows the normal microwave horizon to be slightly extended when compared to the optical horizon; however, under certain meteorological conditions (for example, during nighttime super-refractivity usually associated with temperature inversions) the value of  $K$  increases to 2 or greater for periods of several minutes to several hours. This increases the path clearance and results in the heavy multipath fade activity seen on some reflective paths and antenna decoupling power fading on others.

## CLEARANCE CRITERIA

The criteria used to design a radio path in regions where the X-factor is equal to or less than 1:

- Main to Main:
  - 100% first Fresnel zone radius over  $K=4/3$ , or
  - 30% first Fresnel zone radius over  $K=2/3$ , whichever is greater
- Main to Diversity:
  - 60% first Fresnel zone radius over  $K=4/3$

The criteria used to design a radio path in regions where the X-factor is greater than 1:

- Main to Main:
  - 100% first Fresnel zone radius over  $K=4/3$ , or
  - Grazing first Fresnel zone radius over  $K=1/2$ , whichever is greater
  
- Main to Diversity:
  - 60% first Fresnel zone radius over  $K=4/3$

### **MICROWAVE PATH PERFORMANCE CALCULATIONS AND WARRANTIES**

The microwave path design models most frequently employed within the industry (e.g., Vigants, and ITU PN-530) provide a reasonably accurate (and therefore usually guaranteed) estimate of the cumulative time a path will be out of service due to random atmospheric multipath fading under normal atmospheric conditions. **These models do not (and cannot) accommodate abnormal, unusual, anomalous, or otherwise unpredictable conditions of weather or atmospheric refractivity.**

### **MICROWAVE FREQUENCY ENGINEERING / INTER-SYSTEM INTERFERENCE ANALYSIS**

Aviat Networks will partner with Comsearch, a CommScope company, to provide cost-effective frequency planning and FCC licensing services for radio communications systems (if required). The planning software used, considers specific operating parameters of both the proposed microwave system and the environment microwave systems (license and proposed) to properly consider the interference potential of the new path or system. Parameters and data elements incorporated into the modeling include, but are not limited to, antenna type, antenna height, elevation, antenna radiation pattern, receiver filter performance, terrain, radio modulation, path orientation, receiver threshold, etc. These elements are required to accurately predict specific interfering levels into and from the existing microwave systems. The accuracy of the calculations is ensured by “real time” maintenance of the Comsearch point-to-point microwave, earth station, radio equipment, antenna, interference objective, and contact database.

### **MICROWAVE FREQUENCY SELECTION**

The interference analysis performed on the microwave system identifies available frequencies considering existing and proposed systems found in the Comsearch database. When applicable, an analysis of the systems in the adjacent bands can be done to ensure the microwave system does not receive unwanted threshold degradation. In bands shared with satellite systems, an analysis of potential interference with earth stations and with the geo-stationary satellite orbit can also be done. Additionally, co-located or nearby transmitters already licensed in the required frequency band can be identified in order to reduce the possibility of “bucking” an existing high/low frequency plan that could increase the possibility of receiver overload or reflective interference from a nearby system.

### **MICROWAVE FREQUENCY COORDINATION AND FCC LICENSING**

The majority of microwave bands subject to FCC Rule Part 101 require prior coordination with existing licensees. Aviat Networks will partner with Comsearch to perform the frequency coordination and FCC licensing on behalf of the customer (if required). The procedure will include notification of the technical parameters of the proposed system to all existing and proposed licensees in the area and frequency band of operation. Frequency coordination will also be performed with Canadian and Mexican authorities in border areas when necessary. By FCC rule, recipients are given 30 days to respond, or in some cases an expedited response can be requested.

Upon completion of the prior coordination process, documentation required to satisfy FCC Rule Part 101.103 (d) can be prepared on behalf of the customer. This will include any necessary exhibits, including Supplemental Showings required upon submittal of the requested license application. The FCC filing process includes:

- Filing of the FCC Form 601 microwave application upon written approval from the customer and providing an electronic copy of the application to the customer via email.
- Tracking the status of the application until the license is granted by the FCC. Amendments will be handled expeditiously on behalf of the customer for any questions or concerns from the Commission.
- Email notifications to the licensee when the license is granted by the FCC.
- Filing of the required “Completion of Construction” notification with the FCC upon written approval from the licensee and notification of the filing via email.

### ***SPECIAL CONSIDERATIONS***

On all microwave radio paths traversing urban areas there exists the possibility of multiple on- and off-path structural reflections which generate long-delayed echoes, as well as “terrain scatter” RF intra- and inter-system interference. Long delayed, low-level echoes have no effect on digital radio performance; however, the terrain scatter mechanism cannot be accurately predicted nor precisely measured without an extensive and expensive field trial. Consequently, this mechanism is specifically excluded from all current industry-wide path survey and frequency coordination performance guarantees.

The structure supporting the microwave antenna can take many forms. The antenna is most often mounted on a tower, but can be mounted on a variety of structures such as roof tripods, penthouse wall, wooden telephone pole or metal monopole. It is recommended that the customer or end user conduct a structural analysis of the support structure to determine if the structure will support the additional loading imposed by the antenna and its mount. The structure must also meet the twist and sway requirements per EIA/ANSI 222G.

Certain geographic areas / frequency bands are restricted due to Radio Astronomy use or DOD and other Government top-secret installations. Even outside the absolute exclusion zone, there are areas where 18 GHz can be cleared by DOD. Coordinators must file applications and wait for the FCC to contact NTIA and NTIA to contact IRAC to analyze these before FCC licenses are granted. If the application is rejected, the proposed microwave link could be subject to redesign with another frequency band.

## LIST OF SITES AND PATHS

***SITES (in the order they appear in this report):***

- Coyote Hills
- Hayward PD
- Garin
- Lakeside
- Oakland Housing Authority

***PATHS (in the order they appear in this report):***

- Coyote Hills to Hayward PD
- Garin to Hayward PD
- Lakeside to Oakland Housing Authority

## SYSTEM INFORMATION

### *SYSTEM DESCRIPTION*

Motorola/EBRCSA in collaboration with Aviat has undertaken a project to upgrade its microwave backhaul network, for three (3) microwave paths. This project involves implementing radio equipment utilizing Aviat IRU600 series radio.

This report consists of three (3) microwave paths surveyed as part of this project:

- Coyote Hills to Hayward PD
- Garin to Hayward PD
- Lakeside to Oakland Housing Authority

The microwave paths were surveyed to determine if proper line-of-sight clearances can be achieved using available antenna structures.

Antenna heights were used based on the following considerations:

- Clearance based on standard Vigants clearance criteria appropriate for the path area.
- All foliage growth along the route includes an added 20-ft of future growth factor.
- Lowest possible centerline to reduce tower loading.

### SYSTEM LAYOUT



## SITE INFORMATION – Coyote Hills

### SITE DESCRIPTION

Customer Supplied Site Coordinates, NAD 83
37° 32' 25.7"N 122° 4' 56.8"W Elev: 271 ft / 82.6 m

*Note: Site coordinates are verified by referencing the tower location to landmarks and reference points that are depicted on the USGS 7 1/2 minute topo maps for the area. GPS readings may also be used to supplement the USGS topo data. Field verified ground elevations and/or site coordinates may differ from frequency coordinated/FCC licenses values. This is due to matching of existing ASR/FCC licenses where applicable.*

Field Verified Site Coordinates, NAD 83
37° 32' 25.45"N 122° 4' 56.36"W Elev: 283.00 ft / 86.3 m

ASR, NAD 83
° ' "N ° ' "W

FCC Licensed Coordinates, NAD 83
37° 32' 25.7"N 122° 4' 56.8"W Elev: 280.8 ft / 85.6 m

**Street Address:** S Red Hills  
**City:** Fremont  
**County:** Alameda  
**State:** California

**Tower Registration Number:**  
**Call Sign:** WAH749  
**Tower Owner:**

#### Tower Considerations:

- Tower Structure:  Existing  New
- Tower Type:  Guyed  Self-Supporting  Monopole  Rooftop  Water tank  
 Building  Other:
- Tower Height: 80 ft.

#### Antenna Mounting Considerations for each path:

- Path to Hayward PD: The proposed antenna should be installed on the NW Leg.
  - Centerline: 35 ft.
  - Azimuth: 354.26°
  - Tilt Angle: -0.26°

The path is blocked by 56 ft trees close to Hayward PD building. At Hayward PD, a 43 ft tower on top of the building is required to clear path obstructions and meet 20 ft of future tree growth clearance. Note: Preliminary paper study indicates a possible re-route: Hayward PD to San Leandro Hills

#### Transmission Line Considerations for each path:

- Path to Hayward PD: The IRU 600 is an indoor mounted unit, and an estimated 60 feet of waveguide is required from the main antenna to the radio rack inside the shelter.
- Cable Ladder:  Use Existing  Recommended  Not Required
- Cable Ice Bridge:  Use Existing  Recommended
- Entry Ports:  Use Existing  New Entry Port Required
- Ground Bus Bar:  Use Existing  New Bus Bar Required

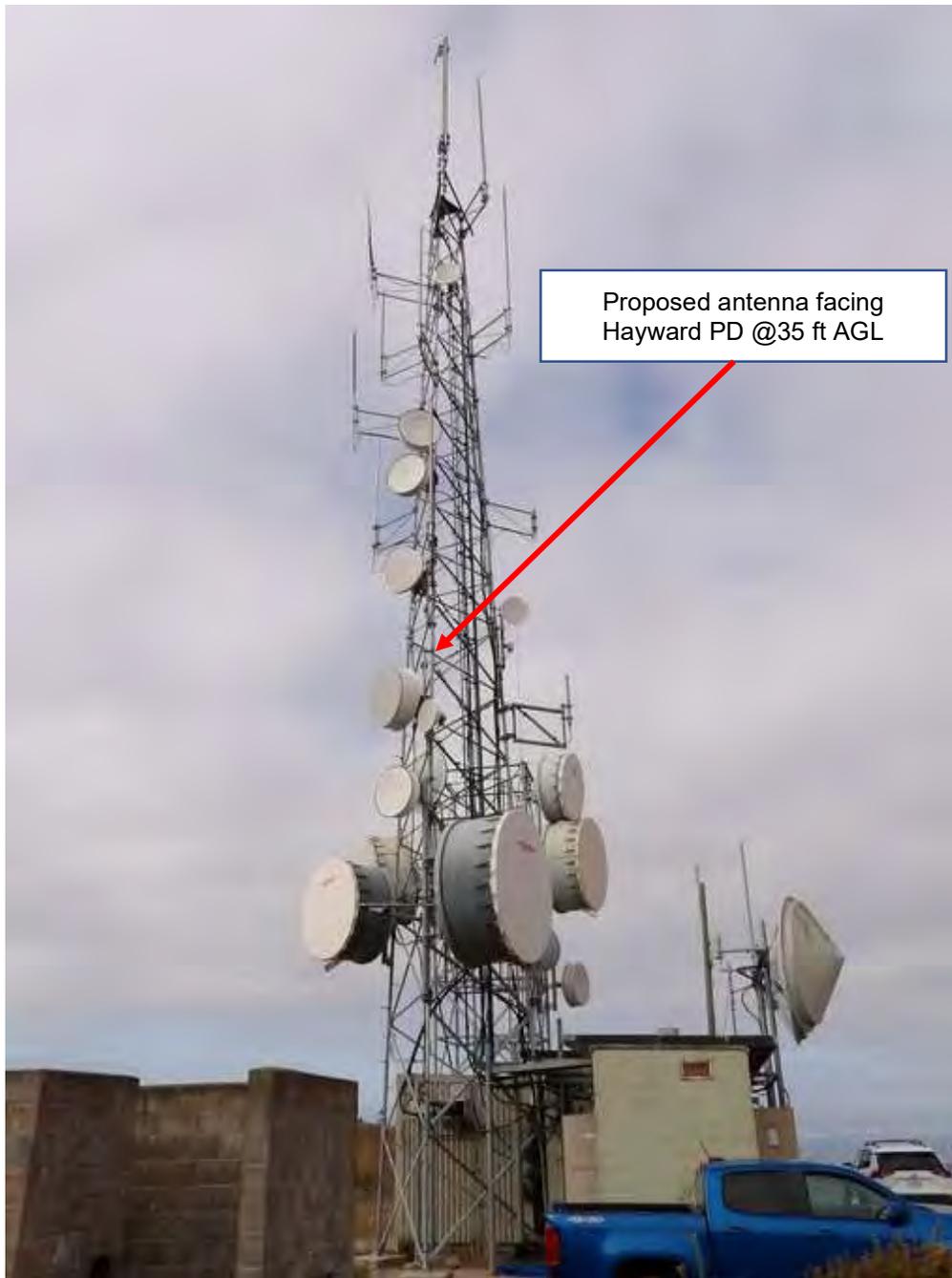
#### Site Access Considerations:

Will need an escort to access the site. A standard vehicle can access the site.

**SITE PHOTOS**



Full Tower Photo



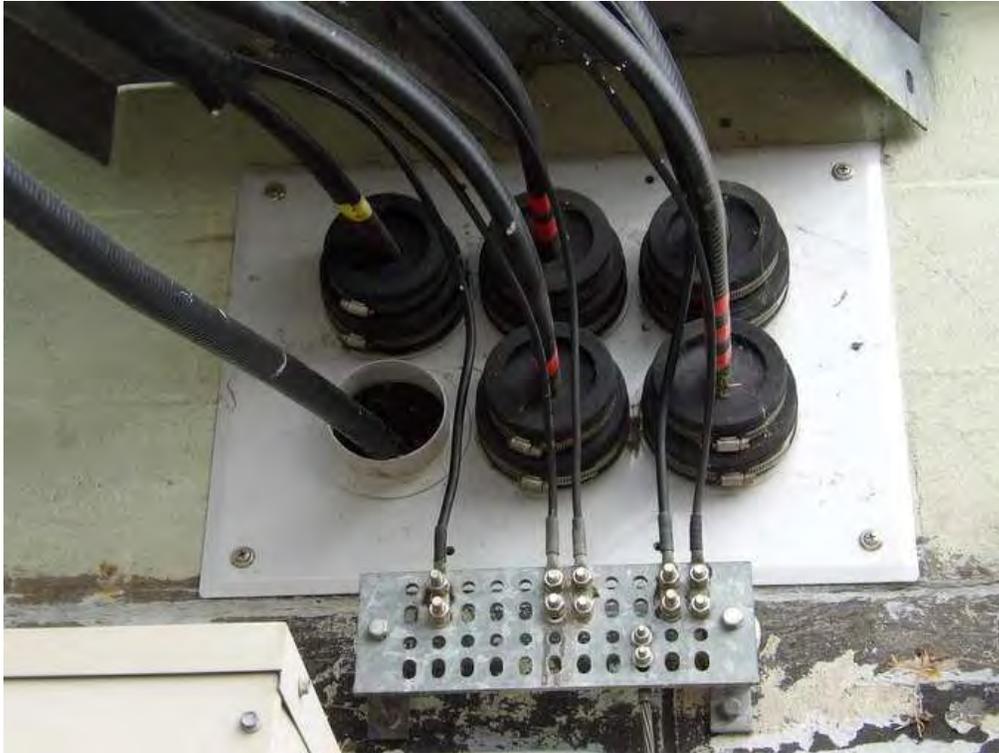
Antenna Main Photo to Hayward PD



Exterior Photo of Shelter/Building



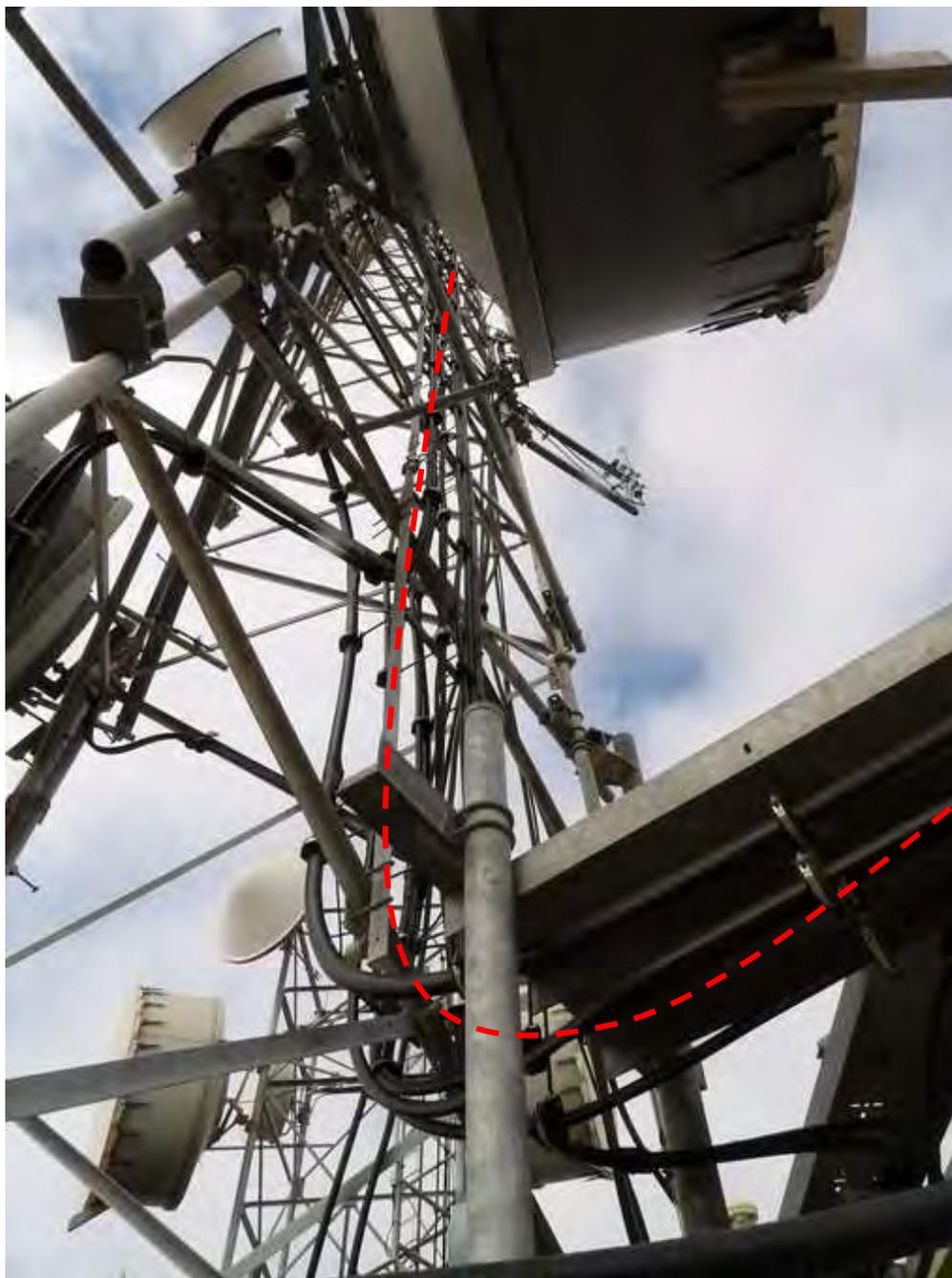
Antenna Cable Ice Bridge



Antenna Exterior Entry Port



Antenna Interior Entry Port



Antenna Waveguide Photo

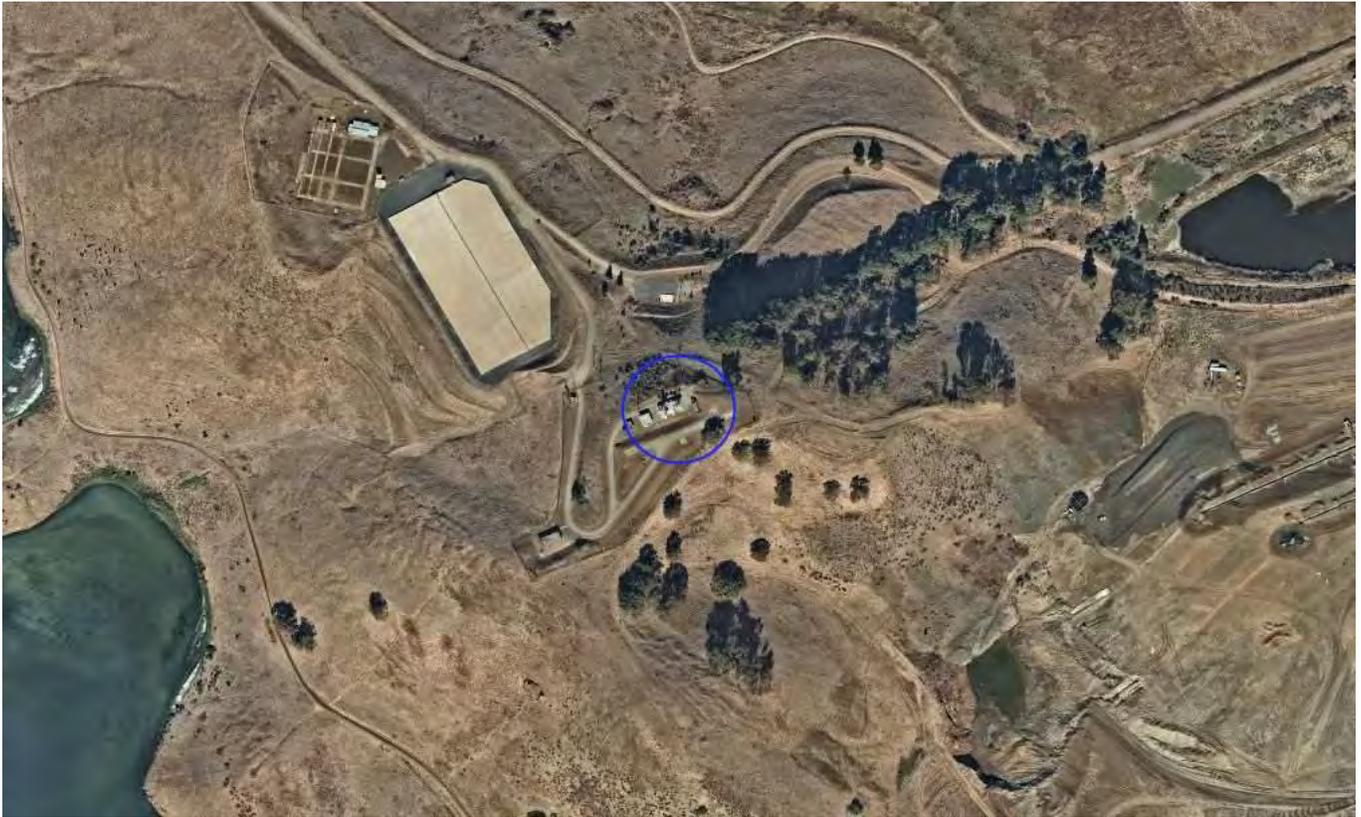


Photo of Equipment Rack Location



Photo of Azimuth to Hayward PD

**MAP EXTRACT**



**Coyote Hills**

NAD 83	
37° 32' 25.45"N	State: California
122° 4' 56.36"W	County: Alameda
Elev: 283.00 ft / 86.3 m	

## SITE INFORMATION – Hayward PD

### SITE DESCRIPTION

Customer Supplied Site Coordinates, NAD 83
37° 39' 26.9"N 122° 5' 49.5"W Elev: 72 ft / 21.9 m

*Note: Site coordinates are verified by referencing the tower location to landmarks and reference points that are depicted on the USGS 7 1/2 minute topo maps for the area. GPS readings may also be used to supplement the USGS topo data. Field verified ground elevations and/or site coordinates may differ from frequency coordinated/FCC licenses values. This is due to matching of existing ASR/FCC licenses where applicable.*

Field Verified Site Coordinates, NAD 83
37° 39' 26.82"N 122° 5' 49.65"W Elev: 73 ft / 22.3 m

ASR, NAD 83
° ' "N ° ' "W

FCC Licensed Coordinates, NAD 83
37° 39' 27.0"N 122° 5' 49.3001"W Elev: 73 ft / 22.3 m

**Street Address:** 300 W Winton Ave  
**City:** Hayward  
**County:** Alameda  
**State:** California

**Tower Registration Number:**  
**Call Sign:** WNTK595  
**Tower Owner:**

#### Tower Considerations:

- Tower Structure:  Existing       New
- Tower Type:     Guyed       Self-Supporting     Monopole       Rooftop       Water tank  
                           Building       Other:
- Building Height: 42 ft.

#### Antenna Mounting Considerations for each path:

- Path to Coyote Hills: The proposed antenna should be installed facing SE on the mount.
  - Centerline: 85 ft.
  - Azimuth: 174.25°
  - Tilt Angle: 0.17°

**The path is blocked by 56 ft trees close to Hayward PD building. A 43 ft tower on top of the building is required to clear path obstructions and meet 20 ft of future tree growth. Note: Preliminary paper study indicates a possible re-route: Hayward PD to San Leandro Hills**

- Path to Garin: The proposed antenna should be installed facing SE on the mount.
  - Centerline: 45 ft.
  - Azimuth: 116.20°
  - Tilt Angle: 1.52°

Antenna will be mounted on an existing wall mount.

#### Transmission Line Considerations for each path:

- Path to Coyote Hills: The IRU 600 is an indoor mounted unit and an estimated 115 feet of waveguide is required from the main antenna to the radio rack inside the shelter.
- Path to Garin: The IRU 600 is an indoor mounted unit and an estimated 75 feet of waveguide is required from the main antenna to the radio rack inside the shelter.
- Cable Ladder:             Use Existing             Recommended             Not Required
- Cable Ice Bridge:         Use Existing             Recommended
- Entry Ports:             Use Existing             New Entry Port Required
- Ground Bus Bar:         Use Existing             New Bus Bar Required

**Site Access Considerations:**

Will need an escort to access the site. A standard vehicle can access the site.

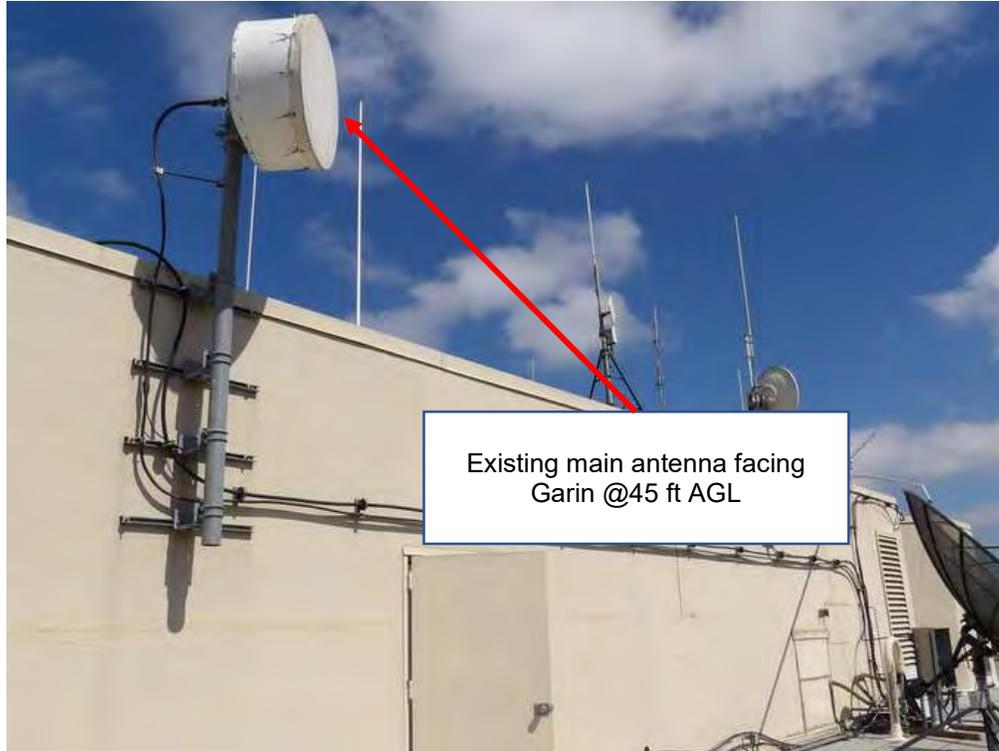
**SITE PHOTOS**



Full Site Photo



Antenna Main Photo to Coyote Hills



Antenna Main Photo to Garin



Exterior Photo of Shelter/Building



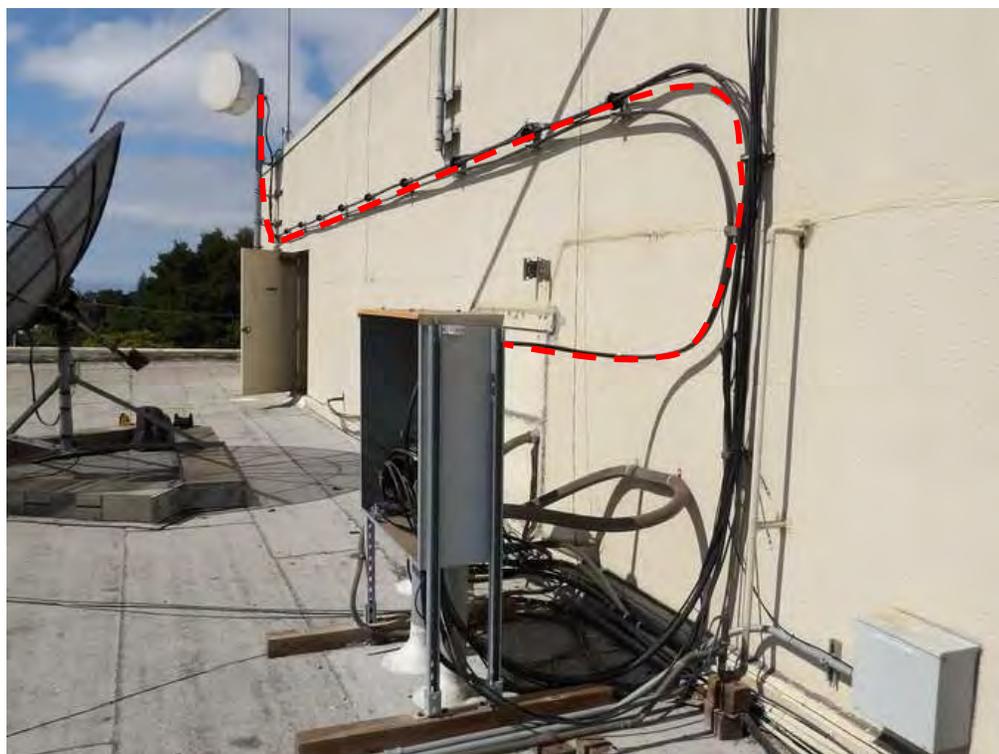
Antenna Cable Ice Bridge



Antenna Exterior Entry Port



Antenna Interior Entry Port



Antenna Waveguide Photo

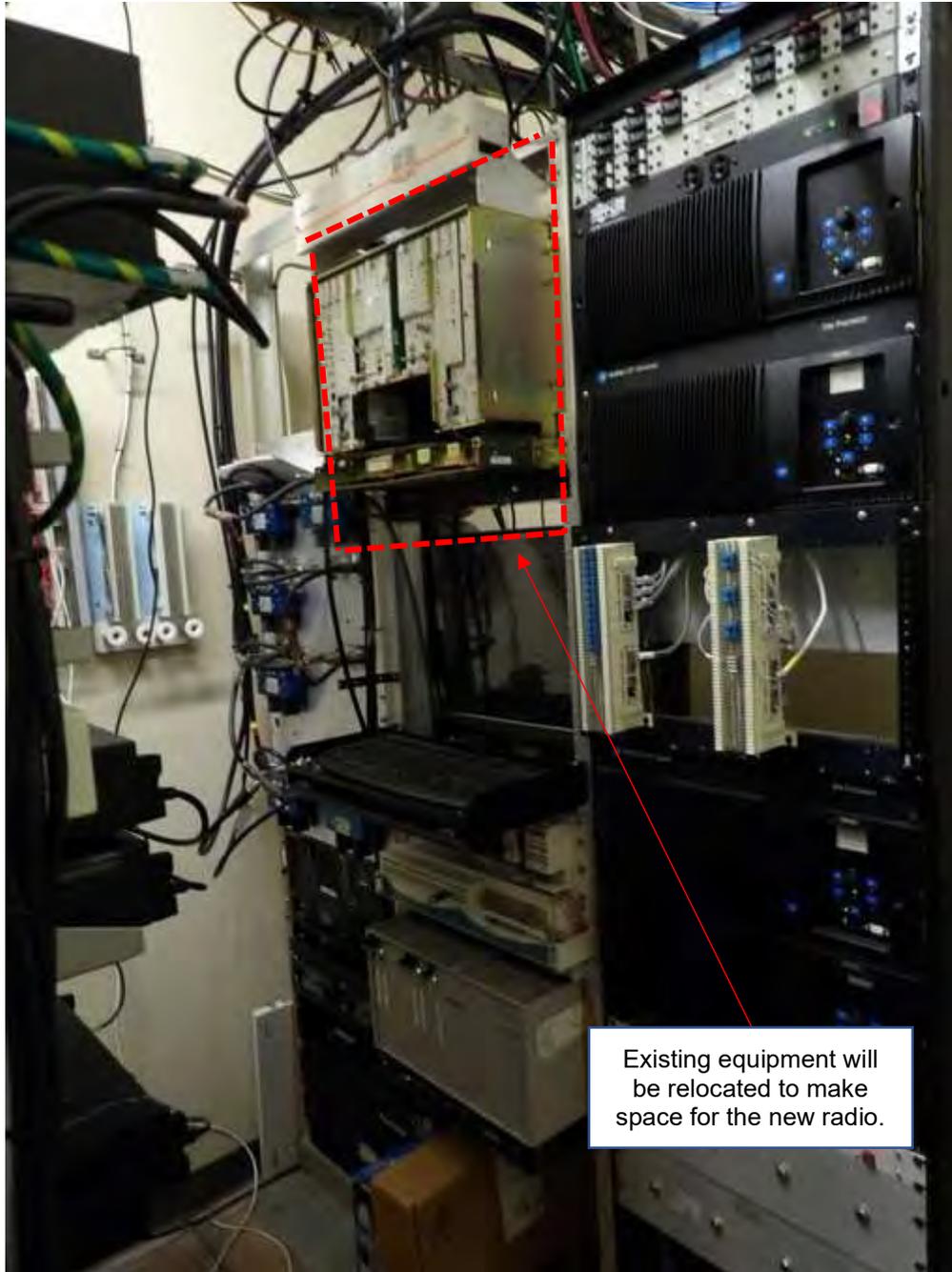


Photo of Equipment Rack Location



Photo of Azimuth to Coyote Hills



Photo of Azimuth to Garin (Zoom Out)



Photo of Azimuth to Garin (Zoom In)

**MAP EXTRACT**



**Hayward PD**

NAD 83	
37° 39' 26.82"N	State: California
122° 5' 49.65"W	County: Alameda
Elev: 73 ft / 22.3 m	

## SITE INFORMATION – Garin

### SITE DESCRIPTION

Customer Supplied Site Coordinates, NAD 83
37° 37' 55.6"N 122° 1' 57.0"W Elev: 648 ft / 197.5 m

*Note: Site coordinates are verified by referencing the tower location to landmarks and reference points that are depicted on the USGS 7 1/2 minute topo maps for the area. GPS readings may also be used to supplement the USGS topo data. Field verified ground elevations and/or site coordinates may differ from frequency coordinated/FCC licenses values. This is due to matching of existing ASR/FCC licenses where applicable.*

Field Verified Site Coordinates, NAD 83
37° 37' 55.71"N 122° 1' 57.02"W Elev: 637.54 ft / 194.3 m

ASR, NAD 83
° ' "N ° ' "W

FCC Licensed Coordinates, NAD 83
° ' "N ° ' "W

**Street Address:** Bello Rd  
**City:** Hayward  
**County:** Alameda  
**State:** California

**Tower Registration Number:**  
**Call Sign:**  
**Tower Owner:**

#### Tower Considerations:

- Tower Structure:  Existing  New
- Tower Type:  Guyed  Self Supporting  Monopole  Rooftop  Water tank  
 Building  Other:
- Tower Height: 70 ft.

#### Antenna Mounting Considerations for each path:

- Path to Hayward PD: The proposed antenna should be installed on the NW Leg.
  - Centerline: 40 ft.
  - Azimuth: 296.24°
  - Tilt Angle: -1.56°

The existing 11 GHz path clearance is 100% F1 at K = 1.33 + 5.10 ft tree growth.  
 The antenna will need to be raised to 55 ft at the Garin site to meet 20 ft of future tree growth clearance .

#### Transmission Line Considerations for each path:

- Path to Hayward PD: The IRU 600 is an indoor mounted unit and an estimated 75 ft of waveguide is required from the antennas to the radio rack inside the shelter.
- Cable Ladder:  Use Existing  Recommended  Not Required
- Cable Ice Bridge:  Use Existing  Recommended
- Entry Ports:  Use Existing  New Entry Port Required
- Ground Bus Bar:  Use Existing  New Bus Bar Required

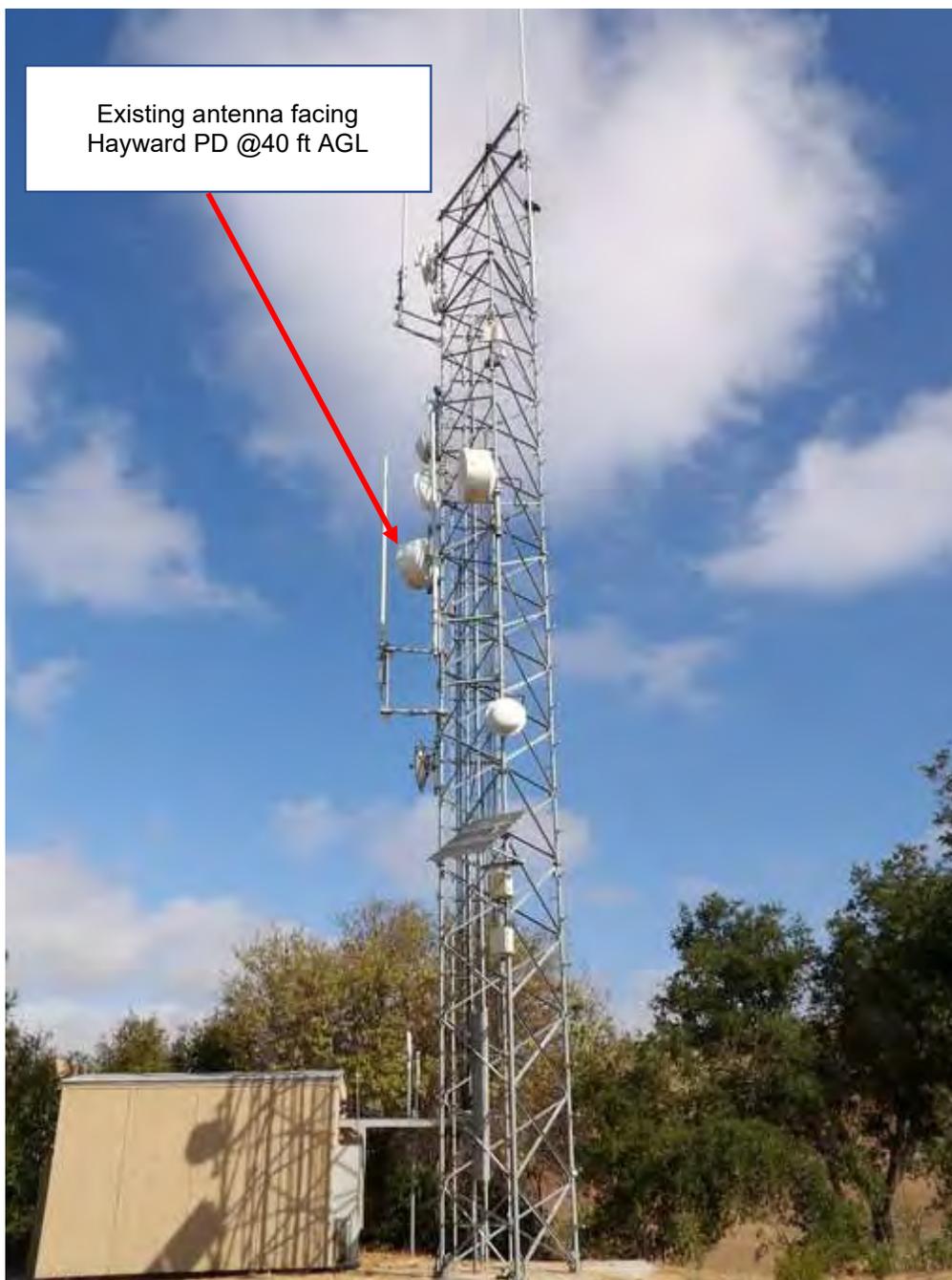
#### Site Access Considerations:

Will need an escort to access the site. A standard vehicle can access the site.

**SITE PHOTOS**

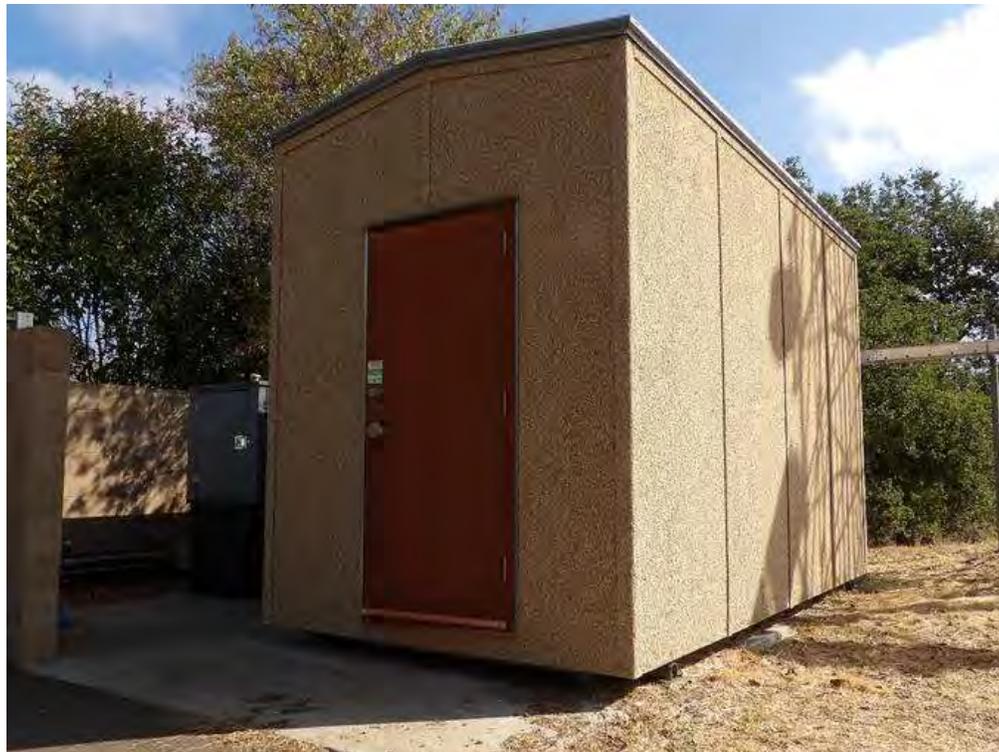


Full Tower Photo



Antenna Main Photo to Hayward PD

**Note:** The antenna will need to be raised to 55 ft at the Garin site to meet 20 ft of future tree growth clearance.



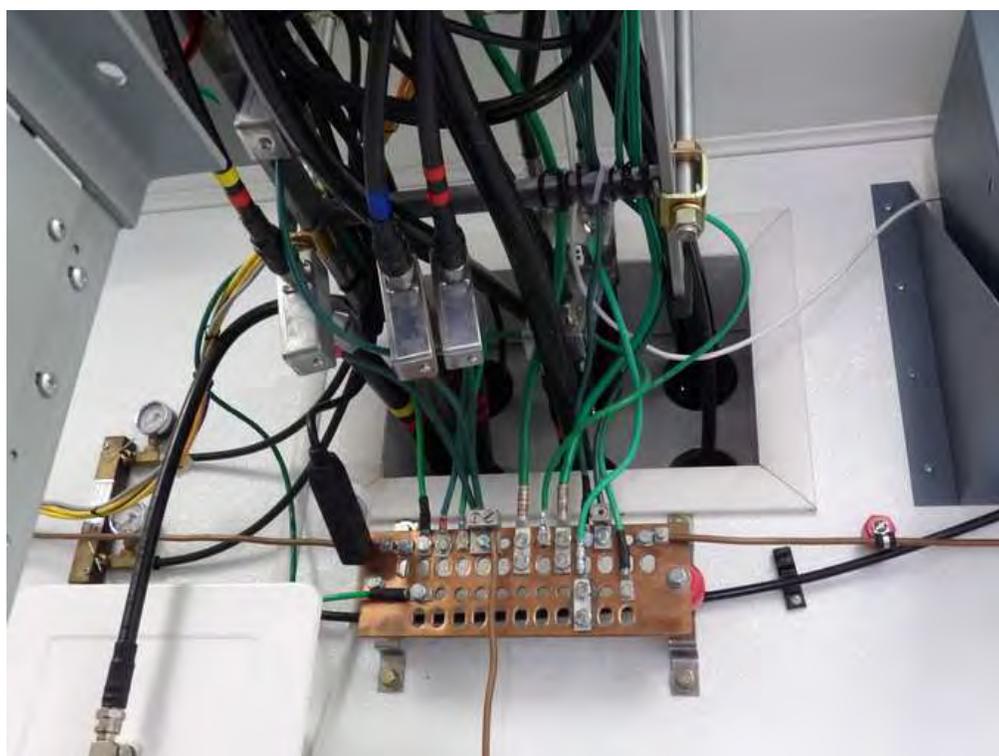
Exterior Photo of Shelter/Building



Antenna Cable Ice Bridge



Antenna Exterior Entry Port



Antenna Interior Entry Port



Antenna Waveguide Photo

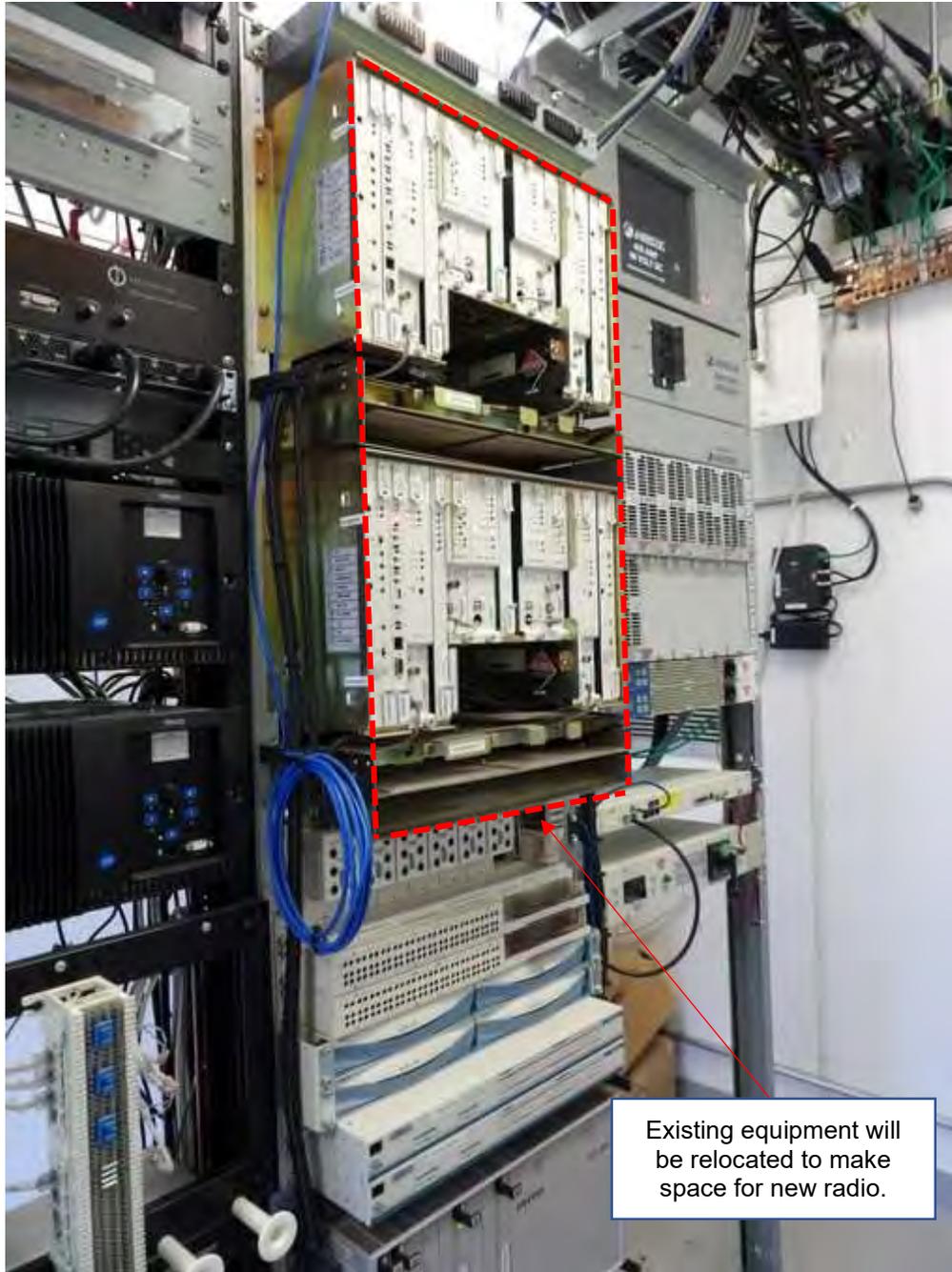
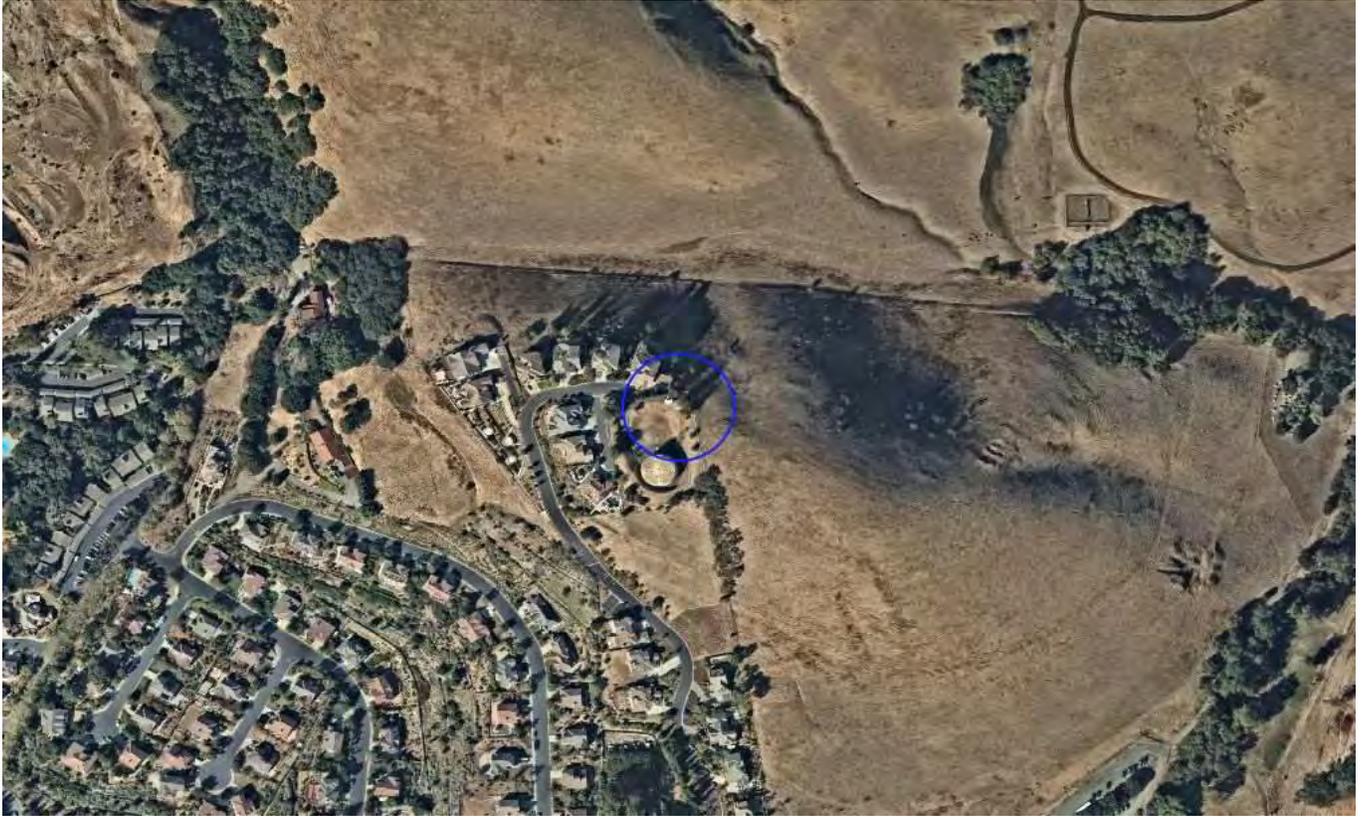


Photo of Equipment Rack Location



Photo of Azimuth to Hayward PD

**MAP EXTRACT**



**Garin**

NAD 83	
37° 37' 55.71"N	State: California
122° 1' 57.02"W	County: Alameda
Elev: 637.54 ft / 194.3 m	

## SITE INFORMATION – Lakeside

### SITE DESCRIPTION

Customer Supplied Site Coordinates, NAD 83
37° 48' 5.08"N 122° 15' 47.09"W Elev: 26 ft / 7.9 m

*Note: Site coordinates are verified by referencing the tower location to landmarks and reference points that are depicted on the USGS 7 1/2 minute topo maps for the area. GPS readings may also be used to supplement the USGS topo data. Field verified ground elevations and/or site coordinates may differ from frequency coordinated/FCC licenses values. This is due to matching of existing ASR/FCC licenses where applicable.*

Field Verified Site Coordinates, NAD 83
37° 48' 4.75"N 122° 15' 46.72"W Elev: 25 ft / 7.6 m

ASR, NAD 83
° ' "N ° ' "W

FCC Licensed Coordinates, NAD 83
37° 48' 5.2"N 122° 15' 46.6"W Elev: 25 ft / 7.6 m

**Street Address:** 1401 Lakeside Drive  
**City:** Oakland  
**County:** Alameda  
**State:** California

**Tower Registration Number:**  
**Call Sign:** WQJZ353  
**Tower Owner:**

#### Tower Considerations:

- Tower Structure:  Existing  New
- Tower Type:  Guyed  Self-Supporting  Monopole  Rooftop  Water tank  
 Building  Other:
- Building Height: 160 ft.

A wall mount or a non-penetrating antenna mount is required to install the new antenna.

#### Antenna Mounting Considerations for each path:

- Path to Oakland Housing Authority: The proposed antenna should be installed facing SE on the mount.
  - Centerline: 165 ft.
  - Azimuth: 132.63°
  - Tilt Angle: -0.69°

Antenna will be mounted on an existing non-penetrating mount.

#### Transmission Line Considerations for each path:

- Path to Oakland Housing Authority: The WTM4100 radio is an outdoor mounted unit, and an estimated 100 feet of cable is required from the main antenna to the radio rack inside the shelter.
- Cable Ladder:  Use Existing  Recommended  Not Required
- Cable Ice Bridge:  Use Existing  Recommended
- Entry Ports:  Use Existing  New Entry Port Required
- Ground Bus Bar:  Use Existing  New Bus Bar Required

#### Site Access Considerations:

Will need an escort to access the site. A standard vehicle can access the site.

**SITE PHOTOS**



Full Tower Photo



Antenna Main Photo to Oakland Housing Authority



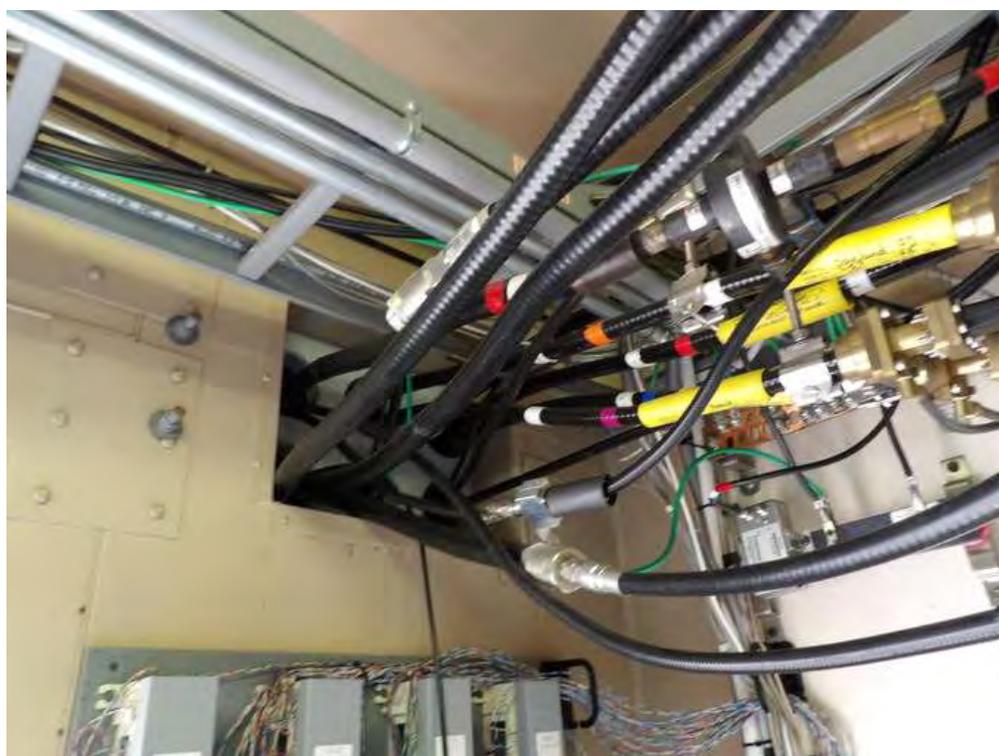
Exterior Photo of Shelter/Building



Antenna Cable Ice Bridge



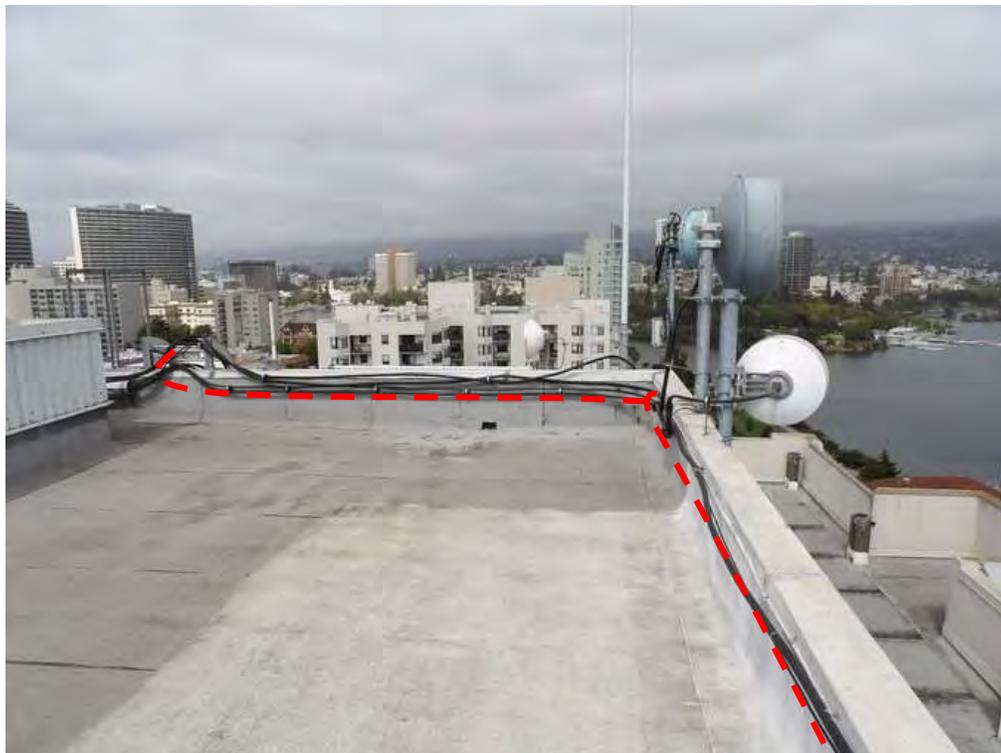
Antenna Exterior Entry Port



Antenna Interior Entry Port



Antenna Waveguide Photo



Antenna Waveguide Photo (cont'd)



Antenna Waveguide Photo (cont'd)



Photo of Equipment Rack Location

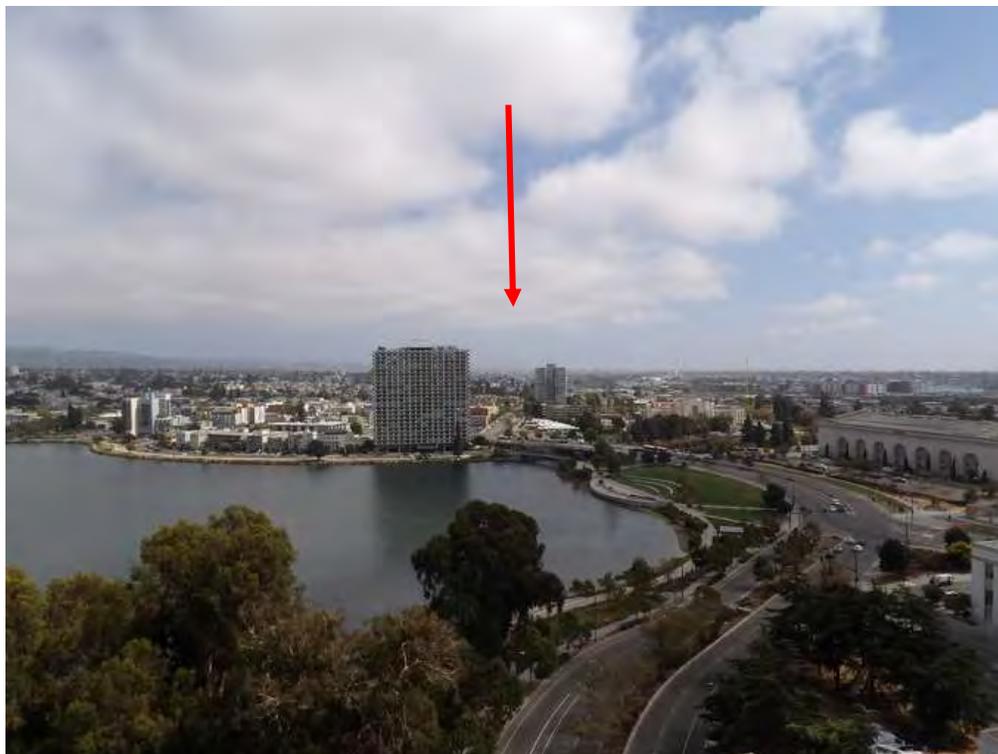


Photo of Azimuth to Oakland Housing Authority

**MAP EXTRACT**



**Lakeside**

NAD 83	
37° 48' 4.75"N	State: California
122° 15' 46.72"W	County: Alameda
Elev: 25 ft / 7.6 m	

## SITE INFORMATION – Oakland Housing Authority

### SITE DESCRIPTION

Customer Supplied Site Coordinates, NAD 83
37° 46' 50.22"N 122° 14' 5.23"W Elev: 26 ft / 7.9 m

*Note: Site coordinates are verified by referencing the tower location to landmarks and reference points that are depicted on the USGS 7 1/2 minute topo maps for the area. GPS readings may also be used to supplement the USGS topo data. Field verified ground elevations and/or site coordinates may differ from frequency coordinated/FCC licenses values. This is due to matching of existing ASR/FCC licenses where applicable.*

Field Verified Site Coordinates, NAD 83
37° 46' 50.87"N 122° 14' 5.61"W Elev: 27 ft / 8.2 m

ASR, NAD 83
° ' "N ° ' "W

FCC Licensed Coordinates, NAD 83
° ' "N ° ' "W

**Street Address:** 1180 25th Ave  
**City:** Oakland  
**County:** Alameda  
**State:** California

**Tower Registration Number:**  
**Call Sign:**  
**Tower Owner:**

#### Tower Considerations:

- Tower Structure:  Existing       New
- Tower Type:     Guyed       Self-Supporting     Monopole       Rooftop       Water tank  
                           Building       Other:
- Building Height: 28 ft.

Antenna will be mounted on an existing non-penetrating antenna mount.

#### Antenna Mounting Considerations for each path:

- Path to Lakeside: The proposed antenna should be installed facing NW on the mount.
  - Centerline: 32 ft.
  - Azimuth: 312.64°
  - Tilt Angle: 0.67°

Antenna will be mounted on an existing non-penetrating mount.

The path will have 100% F1 at K = 1.33 + 10 ft tree growth at the existing antenna heights.  
 The antenna will need to be raised to 42 ft at Oakland Housing Authority to meet 20 ft of future tree growth clearance.

#### Transmission Line Considerations for each path:

- Path to Lakeside: The WTM4100 radio is an outdoor mounted unit, and an estimated 140 feet of cable is required from the main antenna to the radio rack inside the shelter.
- Cable Ladder:             Use Existing             Recommended             Not Required
- Cable Ice Bridge:       Use Existing             Recommended
- Entry Ports:             Use Existing             New Entry Port Required
- Ground Bus Bar:       Use Existing             New Bus Bar Required

#### Site Access Considerations:

Will need an escort to access the site. A standard vehicle can access the site.

**SITE PHOTOS**



Full Tower Photo



Existing antenna facing  
Lakeside @32 ft AGL, to be  
replaced.

Antenna Main Photo to Lakeside

The antenna will need to be raised to 42 ft at Oakland Housing Authority site to meet Motorola's 20 ft clearance criteria objective.



Exterior Photo of Shelter/Building



Existing antenna Cable



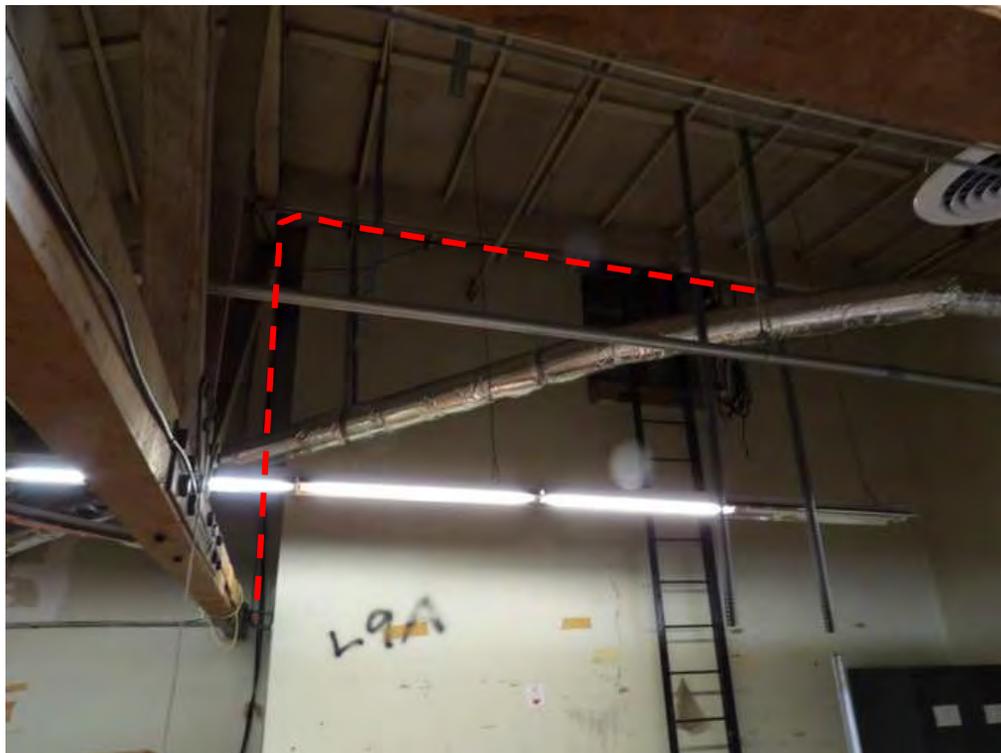
Antenna Cable Exterior Entry Port



Antenna Cable Interior Entry Port



Antenna Waveguide Photo



Antenna Waveguide Photo (Cont'd)



Antenna Waveguide Photo (Cont'd)



Antenna Waveguide Photo (Cont'd)



Antenna Waveguide Photo (Cont'd)

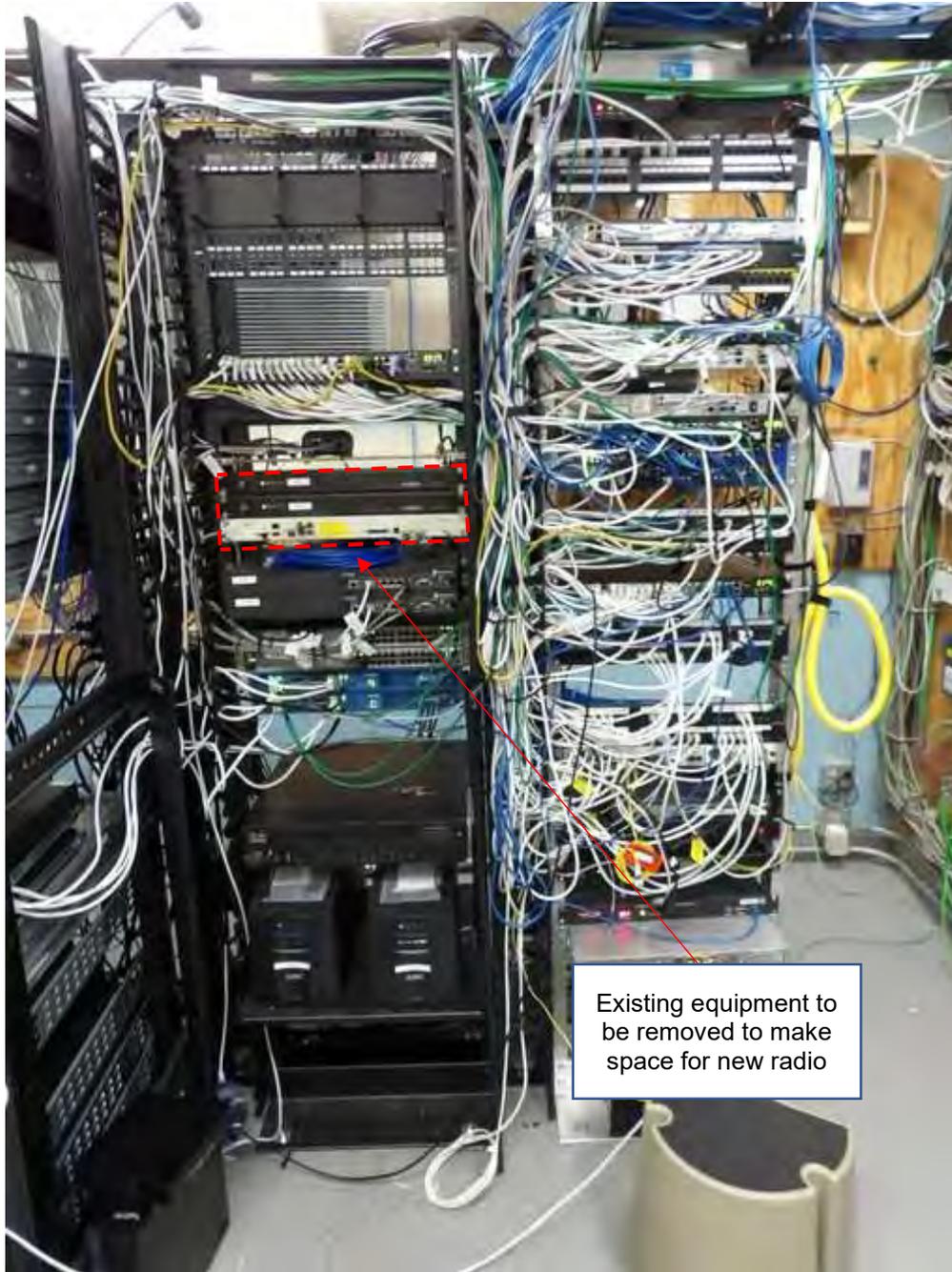
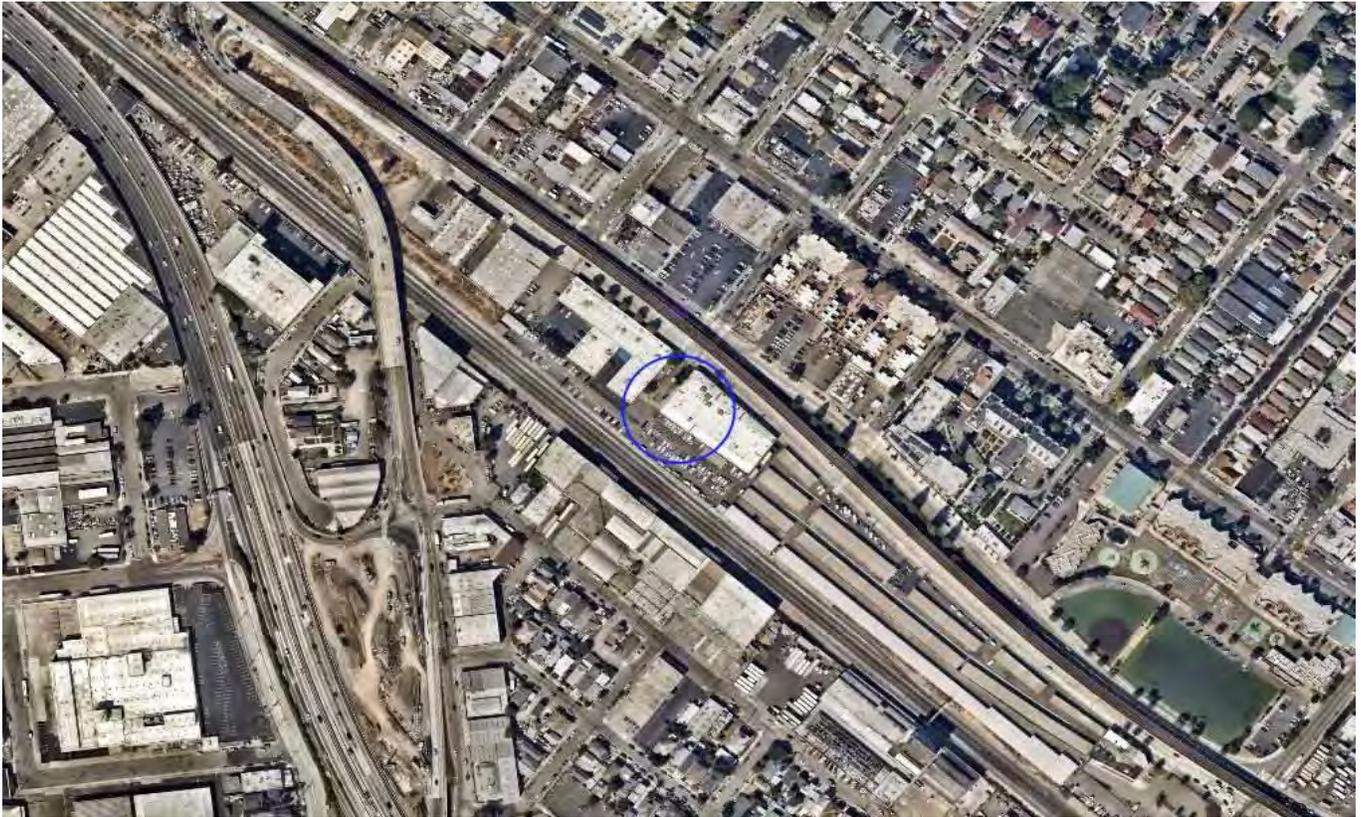


Photo of Equipment Rack Location



Photo of Azimuth to Lakeside

**MAP EXTRACT**



**Oakland Housing Authority**

NAD 83	
37° 46' 50.87"N	State: California
122° 14' 5.61"W	County: Alameda
Elev: 27 ft / 8.2 m	

## PATH INFORMATION

### PATH DESCRIPTIONS

#### Coyote Hills to Hayward PD

**Path Length:** 8.13 Miles  
**Frequency Band:** 6 GHz

#### General Path Description:

The path starts atop a hill in a grassy, mostly treeless region at the Coyote Hills site and travels over a flatter, grassy, marshy area including several creeks. After passing over a sewage treatment facility and other light industrial buildings, the path travels over another creek and then into a dense residential neighborhood with some deciduous trees. The path continues over several residential areas separated by roadways. After crossing over a park and a school, the path moves over two multi-lane highways (92 and I-880), another residential neighborhood, and a park with mature, deciduous trees before ending at the Hayward PD site.

**The path does not meet the clearance criteria at the existing structure height of the Hayward PD site.**

The path is blocked by 56 ft trees close to Hayward PD building. A 43 ft tower on top of the building is required to clear the path obstructions and meet 20 ft of future tree growth clearance. Note: The path would experience approximately 8.15dB of diffraction loss with a 45' antenna centerline at Hayward PD.

Note: Preliminary paper study indicates a possible re-route: Hayward PD to San Leandro Hills

#### Path Climate considerations:

The path is in a region considered "average" for radio wave propagation and defined as a warm-summer Mediterranean climate under the Köppen climate classification system with warm, dry summers and mild winters.

The average high temperature in July is 77 degrees F and the average low temperature in January is 42 degrees F.

The average annual precipitation for this area is 15 inches as rain and no snow.

## PATH INFORMATION

### PATH DESCRIPTIONS

#### Garin to Hayward PD

**Path Length:** 3.95 Miles  
**Frequency Band:** 11 GHz

#### General Path Description:

This path begins on the edge of a hilly region at the Garin site and crosses over a couple large homes before moving over descending, barren terrain. As it travels, the path continues over uneven terrain populated by dense housing with few trees. The region becomes more suburban with some deciduous trees and parks, but the path mainly stays over dense residential areas. As the path nears its destination, the area is more urban with multi-lane roads, warehouses, apartment buildings and eventually taller office buildings. There is a moderate number of trees along this path. The path ends atop a building at the Hayward PD site.

**The path does not meet the clearance criteria using the existing height at the Garin site.  
(Path has 5.1' of future tree growth clearance).**

The existing 11 GHz path clearance is 100% F1 at  $K = 1.33 + 5.10$  ft tree growth.  
The antenna will need to be raised to 55 ft at the Garin site to meet 20 ft of future tree growth allowance.

#### Path Climate considerations:

The path is in a region considered "average" for radio wave propagation and defined as a warm-summer Mediterranean climate under the Köppen climate classification system with warm, dry summers and mild winters.

The average high temperature in July is 77 degrees F and the average low temperature in January is 42 degrees F.

The average annual precipitation for this area is 15 inches as rain and no snow.

## PATH INFORMATION

### PATH DESCRIPTIONS

#### Lakeside to Oakland Housing Authority

**Path Length:** 2.09 Miles  
**Frequency Band:** 11 GHz

#### General Path Description:

This path begins atop a tall building at the Lakeside site directly overlooking a park and a lake. After briefly crossing over the edge of the lake, the path continues over an urban area of mostly low-rise buildings and a park. The path then passes over a few warehouses, train tracks and some multi-lane roads before reaching the Oakland Housing Authority site in an area of retail and light industrial buildings.

**The path does not meet the clearance criteria using the existing height at the Oakland Housing Authority site. (Path has 10' of future tree growth clearance).**

The path will have 100% F1 at  $K = 1.33 + 10$  ft tree growth at the existing antenna heights.  
The antenna will need to be raised to 42 ft at Oakland Housing Authority site to meet 20 ft of future tree growth allowance.

#### Path Climate considerations:

The path is in a region considered "average" for radio wave propagation and defined as warm-summer Mediterranean under the Köppen climate classification system with warm, dry summers and mild, wet winters.

The average high temperature in July is 72 degrees F and the average low temperature in January is 45 degrees F.

The average annual precipitation for this area is 24 inches as rain and no snow.

	Coyote Hills	Hayward PD
Latitude	37 32 25.45 N	37 39 26.82 N
Longitude	122 04 56.36 W	122 05 49.65 W
Easting ( m)	581070.8	579638.1
Northing ( m)	4155219.4	4168192.8
UTM zone	10N	10N
True azimuth (°)	354.26	174.25
Vertical angle (°)	-0.26	0.17
Elevation (ft)	283.00	73.00
Tower height (ft)	80.00	42.00
Tower type	self supporting	building mount
Antenna model	SB 6 - W60 C (TR)	SB 6 - W60 C (TR)
Antenna file name	sb6-w60c, 140307	sb6-w60c, 140307
Antenna gain (dBi)	39.40	39.40
Radome loss (dB)	0.50	0.50
Antenna height (ft)	35.00	85.00
Orientation loss (dB)	0.00	0.00
TX line model	EW63	EW63
TX line unit loss (dB/100 ft)	1.44	1.44
TX line length (ft)	60.00	115.00
TX line loss (dB)	0.86	1.65
Connector loss (dB)	0.27	0.27
TX switch loss (dB)	0.40	0.40
RX hybrid loss (dB)	1.00	1.00
Frequency (MHz)	6175.00	
Polarization	Vertical	
Path length (mi)	8.13	
Free space loss (dB)	130.61	
Atmospheric absorption loss (dB)	0.11	
Net path loss (dB)	57.38	57.38
Configuration	MHSB	MHSB
Radio model	I6V4SL6_30M256Q180R70	I6V4SL6_30M256Q180R70
Radio file name	i4sl630m180_r70	i4sl630m180_r70
TX power (dBm)	28.50	28.50
Emission designator	30M0D7W	30M0D7W
EIRP (dBm)	65.87	65.08
RX threshold criteria	1E-6 BER	1E-6 BER
RX threshold level (dBm)	-70.50	-70.50
Receive signal (dBm)	-28.88	-28.88
Thermal fade margin (dB)	41.62	41.62
Dispersive fade margin (dB)	57.00	57.00

*Guaranteed Tx/Rx Specifications over time and operational range*

	Coyote Hills	Hayward PD
Dispersive fade occurrence factor	1.00	
Effective fade margin (dB)	41.50	41.50
Climatic factor	1.00	
Terrain roughness (ft)	20.00	
C factor	3.29	
Average annual temperature (°F)	59.35	
Fade occurrence factor (Po)	2.728E-002	
Annual multipath availability (%)	99.99994	99.99994
Annual multipath unavailability (sec)	18.09	18.09
Annual 2 way multipath availability (%)	99.99989	
Annual 2 way multipath unavailability (%)	0.00011	
Annual 2 way multipath unavailability (sec)	36.19	

Multipath fading method - Vigants - Barnett

	Garin	Hayward PD
Latitude	37 37 55.71 N	37 39 26.82 N
Longitude	122 01 57.02 W	122 05 49.65 W
Easting ( m)	585367.1	579638.1
Northing ( m)	4165441.9	4168192.8
UTM zone	10N	10N
True azimuth (°)	296.24	116.20
Vertical angle (°)	-1.56	1.52
Elevation (ft)	637.54	73.00
Tower height (ft)	70.00	42.00
Tower type	self supporting	building mount
Antenna model	SU3-107FC (TR)	SU3-107FC (TR)
Antenna gain (dBi)	37.50	37.50
Antenna height (ft)	40.00	45.00
Orientation loss (dB)	0.00	0.00
TX line model	EW90	EW90
TX line unit loss (dB/100 ft)	3.06	3.06
TX line length (ft)	75.00	75.00
TX line loss (dB)	2.30	2.30
Connector loss (dB)	0.45	0.45
TX switch loss (dB)	0.70	0.70
RX hybrid loss (dB)	1.20	1.20
Frequency (MHz)	11200.00	
Polarization	Horizontal	
Path length (mi)	3.95	
Free space loss (dB)	129.51	
Atmospheric absorption loss (dB)	0.10	
Net path loss (dB)	62.00	62.00
Configuration	MHSB	MHSB
Radio model	I6V4S11_30M256Q180R70	I6V4S11_30M256Q180R70
Radio file name	i4s1130m180_r70	i4s1130m180_r70
TX power (dBm)	25.50	25.50
Emission designator	30M0D7W	30M0D7W
EIRP (dBm)	59.55	59.55
RX threshold criteria	1E-6 BER	1E-6 BER
RX threshold level (dBm)	-69.50	-69.50
Receive signal (dBm)	-36.50	-36.50
Thermal fade margin (dB)	33.00	33.00
Dispersive fade margin (dB)	57.00	57.00
Dispersive fade occurrence factor	1.00	
Effective fade margin (dB)	32.98	32.98

*Guaranteed Tx/Rx Specifications over time and operational range*

	Garin	Hayward PD
Climatic factor	1.00	
Terrain roughness (ft)	61.68	
C factor	0.76	
Average annual temperature (°F)	59.39	
Fade occurrence factor (Po)	1.309E-003	
Annual multipath availability (%)	99.99998	99.99998
Annual multipath unavailability (sec)	6.17	6.17
Annual 2 way multipath availability (%)	99.99996	
Annual 2 way multipath unavailability (%)	0.00004	
Annual 2 way multipath unavailability (sec)	12.34	
Polarization	Horizontal	
Rain region	San Francisco, California	
Rain rate (mm/hr)	154.60	
Flat fade margin - rain (dB)	33.00	
Rain attenuation (dB)	32.98	
Annual rain availability (%)	99.99998	
Annual rain unavailability (min)	0.12	
Annual rain + multipath availability (%)	99.99994	
Annual rain + multipath unavailability (min)	0.33	

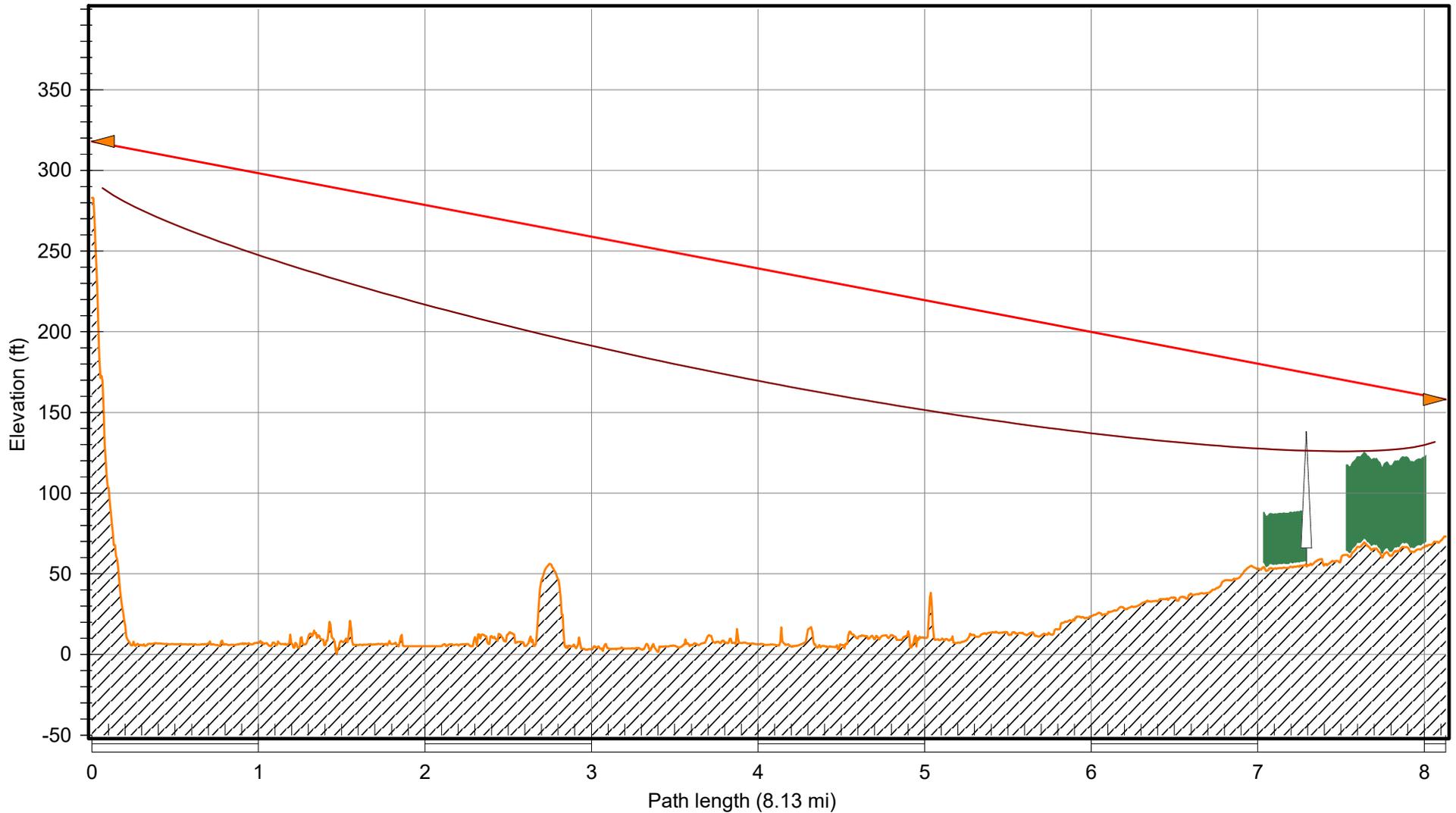
Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane

	Lakeside	Oakland Housing Aut
Latitude	37 48 04.75 N	37 46 50.87 N
Longitude	122 15 46.72 W	122 14 05.61 W
Easting ( m)	564883.1	567374.3
Northing ( m)	4184027.0	4181770.1
UTM zone	10N	10N
True azimuth (°)	132.63	312.64
Vertical angle (°)	-0.69	0.67
Elevation (ft)	25.00	27.00
Tower height (ft)	165.00	28.00
Tower type	building mount	building mount
Antenna model	SC 3 - W100 A (TR)	SC 3 - W100 A (TR)
Antenna file name	scx3-w100a(10.7-11.7 ghz), 130304	scx3-w100a(10.7-11.7 ghz), 130304
Antenna gain (dBi)	38.30	38.30
Antenna height (ft)	165.00	32.00
Orientation loss (dB)	0.36	0.36
TX line model	IF Cable	IF Cable
TX line length (ft)	100.00	140.00
Connector loss (dB)	0.45	0.45
TX switch loss (dB)	6.00	6.00
Other TX loss (dB)	2.00	2.00
Other RX loss (dB)	2.00	2.00
Frequency (MHz)	11200.00	
Polarization	Vertical	
Path length (mi)	2.09	
Free space loss (dB)	123.98	
Atmospheric absorption loss (dB)	0.05	
Net path loss (dB)	59.06	59.06
Configuration	NP	NP
Radio model	WT41_11_40M 256Q 241Mb	WT41_11_40M 256Q 241Mb
Radio file name	wt41_11_40m_241	wt41_11_40m_241
TX power (dBm)	29.50	29.50
Emission designator	40M0D7W	40M0D7W
EIRP (dBm)	59.35	59.35
RX threshold criteria	1E-6 BER	1E-6 BER
RX threshold level (dBm)	-70.00	-70.00
Receive signal (dBm)	-29.56	-29.56
Thermal fade margin (dB)	40.44	40.44
Dispersive fade margin (dB)	53.00	53.00
Dispersive fade occurrence factor	1.00	
Effective fade margin (dB)	40.21	40.21

*Guaranteed Tx/Rx Specifications over time and operational range*

	Lakeside	Oakland Housing Aut
Climatic factor	1.00	
Terrain roughness (ft)	20.00	
C factor	3.29	
Average annual temperature (°F)	59.08	
Fade occurrence factor (Po)	8.402E-004	
Annual multipath availability (%)	100.00000	100.00000
Annual multipath unavailability (sec)	0.75	0.75
Annual 2 way multipath availability (%)	100.00000	
Annual 2 way multipath unavailability (%)	0.00000	
Annual 2 way multipath unavailability (sec)	1.49	
Polarization	Vertical	
Rain region	San Francisco, California	
Rain rate (mm/hr)	422.44	
Flat fade margin - rain (dB)	40.44	
Rain attenuation (dB)	40.40	
Annual rain availability (%)	100.00000	
Annual rain unavailability (min)	0.00	
Annual rain + multipath availability (%)	100.00000	
Annual rain + multipath unavailability (min)	0.02	

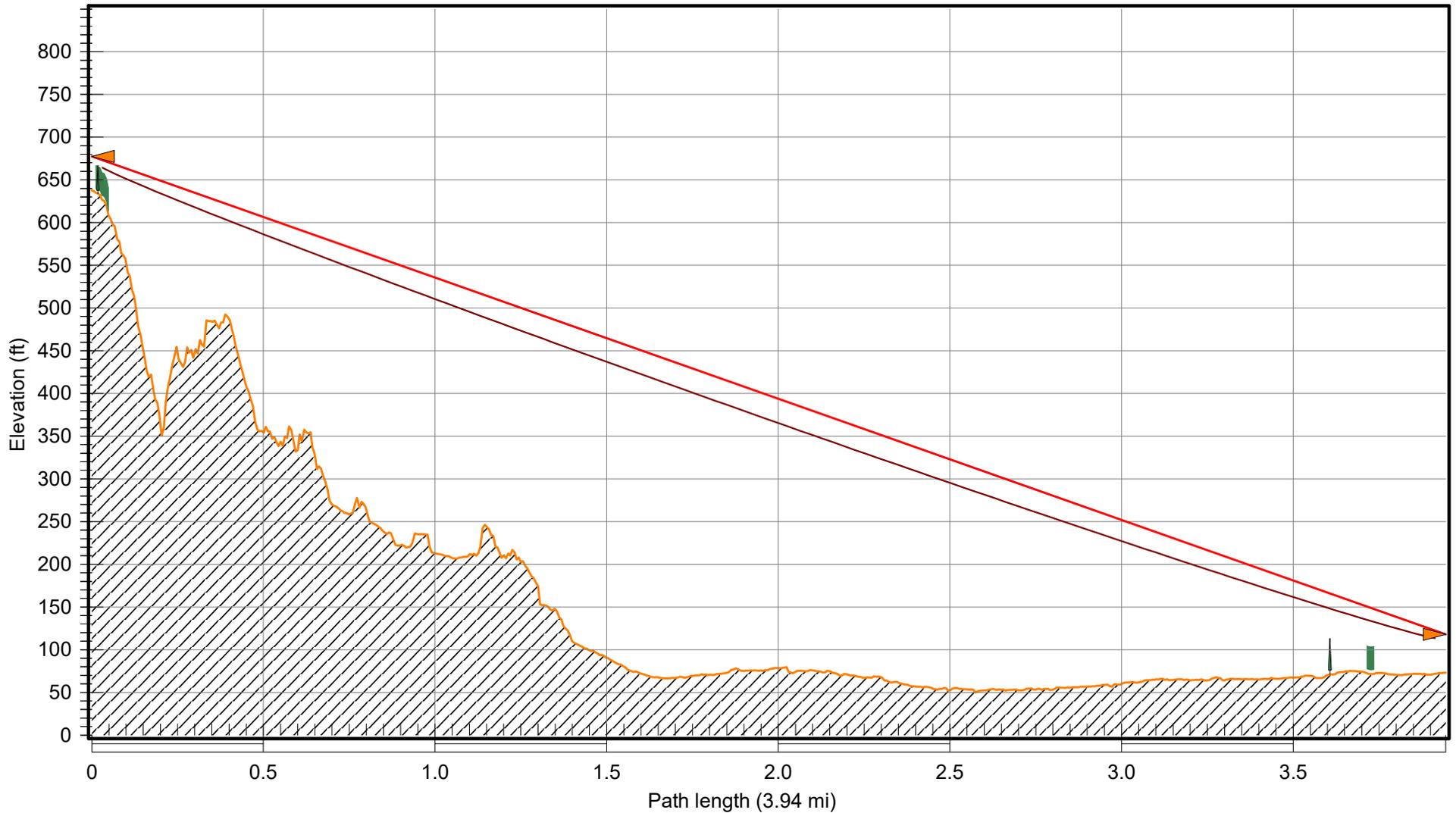
Multipath fading method - Vigants - Barnett  
 Rain fading method - Crane



Coyote Hills	
Latitude	37 32 25.45 N
Longitude	122 04 56.36 W
Azimuth	354.26°
Elevation	283 ft ASL
Antenna CL	35.0 ft AGL

Frequency (MHz) = 6175.0  
 Main 1 K = 1.330 %F1 = 100.00 FH = 20.00 ft

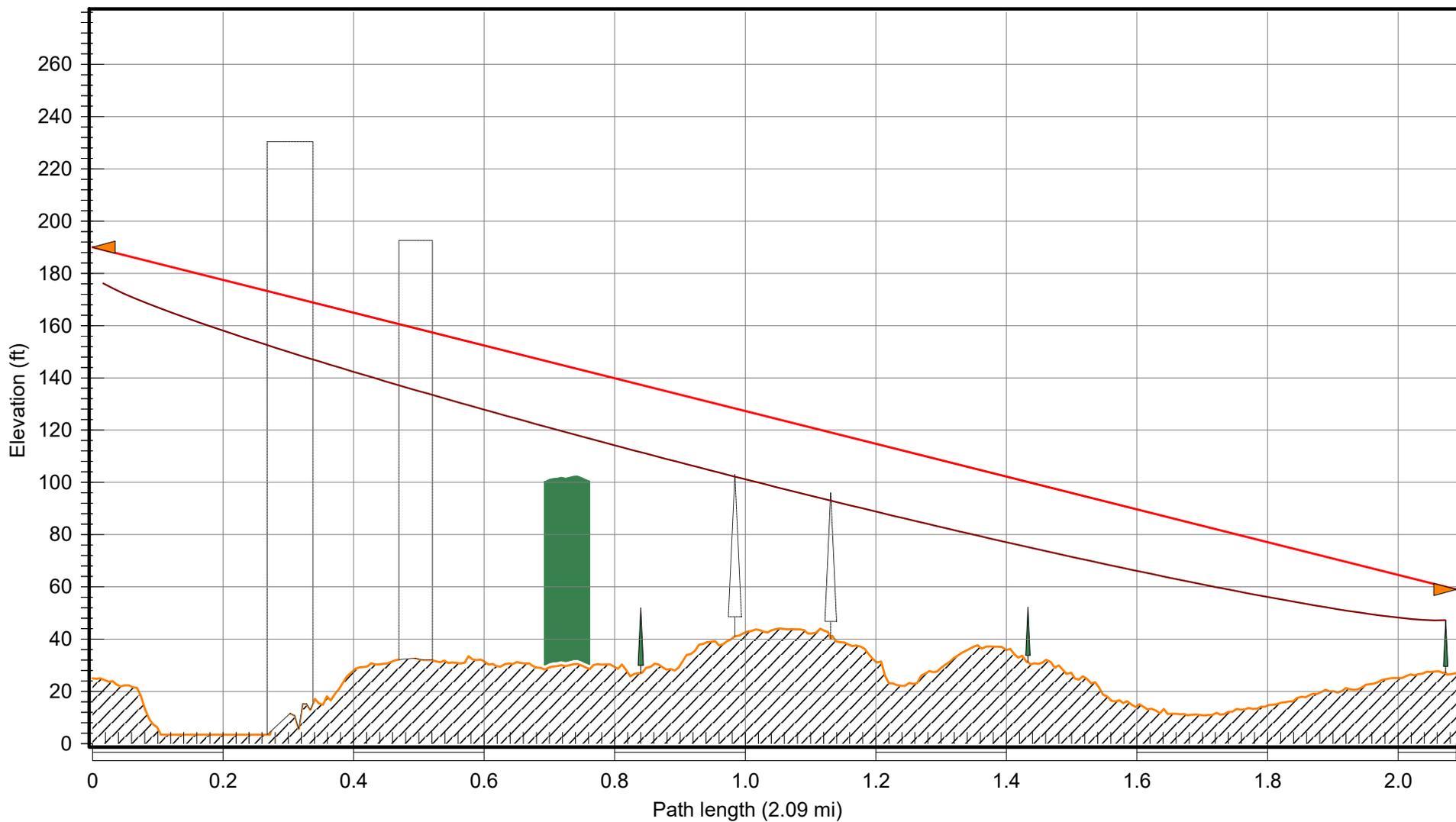
Hayward PD	
Latitude	37 39 26.82 N
Longitude	122 05 49.65 W
Azimuth	174.25°
Elevation	73 ft ASL
Antenna CL	85.0 ft AGL



Garin	
Latitude	37 37 55.71 N
Longitude	122 01 57.02 W
Azimuth	296.24°
Elevation	638 ft ASL
Antenna CL	40.0 ft AGL

Frequency (MHz) = 11200.0  
 Main 1 K = 1.330 %F1 = 100.00 FH = 5.10 ft

Hayward PD	
Latitude	37 39 26.82 N
Longitude	122 05 49.65 W
Azimuth	116.20°
Elevation	73 ft ASL
Antenna CL	45.0 ft AGL



Lakeside	
Latitude	37 48 04.75 N
Longitude	122 15 46.72 W
Azimuth	132.63°
Elevation	25 ft ASL
Antenna CL	165.0 ft AGL

Frequency (MHz) = 11200.0  
 Main 1 K = 1.330 %F1 = 100.00 FH = 10.00 ft

Oakland Housing Aut	
Latitude	37 46 50.87 N
Longitude	122 14 05.61 W
Azimuth	312.64°
Elevation	27 ft ASL
Antenna CL	32.0 ft AGL

## ADDITIONAL PHOTOS

Coyote Hills to Hayward PD



Trees from 7.53 to 8.0 Mi from Coyote Hills (46 ft to 56ft)

Garin to Hayward PD



33 ft Trees located at 0.018 Mi from Garin

Lakeside to Oakland Housing Authority



20 ft Tree located at 2.073 Mi from Lakeside

# TERMS AND CONDITIONS

## PATH ENGINEERING/ TRANSMISSION ENGINEERING

### Path Engineering Services

Aviat Networks will perform radio path surveys and path calculations to determine the normal path loss and antenna heights as defined in TIA/EIA Standard RS-252-A

When Aviat Networks performs reliability calculations or path studies (path profiles from mapping or digitized data only) based solely on information supplied by or on behalf of the Customer, these calculations and studies are provided solely for budgetary purposes and shall not be construed as or be used for an installable design.

When conducting a path survey, Aviat Networks will verify site coordinates and ground elevations, and record trees and man-made fixed obstructions on the path. This information will be recorded on the profile for that particular path. Aviat Networks will assign an appropriate growth factor to tree heights.

When Aviat Networks performs frequency planning based, in part, on data provided by the Customer at the time of the study, Aviat Networks will not be responsible for any interference case that arises due to errors or omissions in such data. As the usage of microwave bands increase and there is more sharing with satellite services, it may be necessary to perform frequency interference studies and additional path surveys (to determine blockage) to alleviate the possibility of interference from satellite earth stations.

### Warranty of Path Engineering Services

Aviat Networks warrants that the installed radio communication path will conform to Customer's multipath performance reliability objectives when Aviat Networks has performed the path survey, recommended the path design, and Aviat Networks has implemented such recommendations. **This warranty is for a period of 15 months from the date of the survey or one year from the date of installation of the microwave path, whichever expires first.** All Aviat Networks field activities and path propagation analysis will utilize current hardware, software, and engineering

practice and judgment with the goal of meeting normal Path Loss, as defined in TIA/EIA Standard RS-252-A.

Aviat Networks is not responsible for paths that it does not survey, nor for changes in path design beyond those specifically allowed in the path survey report or in writing after the field survey is completed, including but not limited to:

- Any change in path design;
- Any movement in site locations;
- Any building or other structure built on-path after date of survey;
- Any disturbance of the terrain which may cause blockage or reflection;
- Any additional frequency interference source;
- Any change of available antenna mounting space on tower.

Any one or more of the changes listed on page one will nullify this warranty, and the Customer shall in such case bear the total cost of determining that such change was the cause.

Aviat Networks will not be responsible for degraded path performance when such degradation is due to such anomalous propagation conditions as:

- Long-term loss of fade margin due to antenna decoupling misalignment caused by widely-varying k-factor changes;
- Long-term loss of fade margin due to Atmospheric Boundary Layering ("ABL") causing wavefront defocusing (beam spreading), signal entrapment (blackout fading), ducting, and other such occurrence.
- Excessive rain outage rates beyond the published crane and/or chart data used in the calculation;
- Degradation resulting from certain types of multipath interference attributed to unidentifiable off-path terrain features or structures;

- Any other technological or atmospheric condition not foreseeable through the exercise of prudent engineering knowledge and judgment.

Additionally, Aviat Networks will not be responsible for degraded path performance when:

- Non-Aviat Networks radio equipment is installed on a surveyed path;
- Aviat Networks radio equipment is not installed by Aviat Networks;
- Existing antenna and waveguide system is used without test and inspection performed by Aviat Networks.

Aviat Networks designs the microwave path based upon best engineering practices and standards common to the industry, and it selects a transmission configuration based upon the most economical method for meeting the path performance objectives. When path loss or reliability objectives are not achieved, exclusive of anomalous propagation or path changes as described above, then Customer's sole remedy, and Aviat Networks' exclusive liability in connection with path engineering, shall be that Aviat Networks will provide incremental labor and material to optimize the antenna system beyond what would have been required during initial installation.

Where anomalous propagation is suspected in an installed microwave path, Aviat Networks will work with the Customer to obtain reasonable evidence that such condition exists. The total retroactive costs for such study shall be the responsibility of the Customer with Aviat Networks providing in-office engineering support. The cost of relocating towers, antennas, passive reflectors or other measures required to remedy this type of problem shall solely be the responsibility of the Customer.

### Limitations

The foregoing warranties are in lieu of all other warranties whether oral, written, expressed, implied, or statutory. In particular, THE IMPLIED WARRANTIES OF A FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY ARE HEREBY DISCLAIMED and shall not be applicable, either from Aviat Networks or any other equipment or software manufacturer. Aviat Networks' warranty obligations and Customer's remedies thereunder are solely and exclusively as stated herein. IN NO CASE SHALL AVIAT NETWORKS BE LIABLE FOR INDIRECT KINDS OF DAMAGES, INCLUDING BUT NOT LIMITED TO SPECIAL, INCIDENTAL, AND CONSEQUENTIAL DAMAGES, OR LOSS OF CAPITAL, REVENUE, OR PROFITS. In no event shall Aviat Networks' liability to customer, or any party claiming through Customer, be in excess of the actual sales price paid by Customer for any service supplied to Customer by Aviat Networks.





LIM	O	APC	QTY	NOMENCLATURE
1	-	708	42	DSMW3HE06791AA
2	-	708	84	DSMW3HE02774AB
3	-	708	42	DSMW3HE02784MA
4	-	708	42	DSMW3HE06792EA
5	-	708	84	DSMW3HE11473AK
6	-	708	168	DSMW3HE11904AA
7	-	708	5	DSMW3HE04991AA
8	-	708	10	DSMW3HE04992AA
9	-	708	5	DSMW3HE05574HA
10	-	708	5	DSMW3HE04993AA
11	-	708	20	DSMW3HE11473AK
12	-	708	40	DSMW3HE11904AA
13	-	207	120	DSSP4KHAM10B1A
14	-	708	4	DSMW3HE06791AA
15	-	708	8	DSMW3HE02774AB
16	-	708	4	DSMW3HE02784MA
17	-	708	4	DSMW3HE06792EA
18	-	708	8	DSMW3HE11473AK
19	-	708	16	DSMW3HE11904AA
20	-	708	2	DSMW3HE04991AA
21	-	708	4	DSMW3HE04992AA
22	-	708	2	DSMW3HE05574HA
23	-	708	2	DSMW3HE04993AA
24	-	708	8	DSMW3HE11473AK
25	-	708	16	DSMW3HE11904AA
26	-	877	2	T8586
27	-	147	2	CLN1868

DESCRIPTION

SAR-8 SHELF V2

CONTROL SWITCH MODULE V2 (CSMV2) 48V

SAR RELEASE 9.0 BASIC OS LICENSE

FAN MODULE (SAR-8 SHELF V2) EXT TEMP -48VDC

PMC CARD W/ 4 GIG-E SFP BUNDLE (1) 3HE02782AA PMC, (4) SHE11904AA SFP

SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C

SAR-18 SHELF

CONTROL SWITCH MODULE FOR SAR-18

SAR-18 RELEASE 9.0 BASIC OS LICENSE

FAN MODULE FOR SAR-18

PMC CARD W/ 4 GIG-E SFP BUNDLE (1) 3HE02782AA PMC, (4) SHE11904AA SFP

SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C

BREAKER, 10 AMP

SAR-8 SHELF V2

CONTROL SWITCH MODULE V2 (CSMV2) 48V

SAR RELEASE 9.0 BASIC OS LICENSE

FAN MODULE (SAR-8 SHELF V2) EXT TEMP -48VDC

PMC CARD W/ 4 GIG-E SFP BUNDLE (1) 3HE02782AA PMC, (4) SHE11904AA SFP

SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C

SAR-18 SHELF

CONTROL SWITCH MODULE FOR SAR-18

SAR-18 RELEASE 9.0 BASIC OS LICENSE

FAN MODULE FOR SAR-18

PMC CARD W/ 4 GIG-E SFP BUNDLE (1) 3HE02782AA PMC, (4) SHE11904AA SFP

SFP - GIGE BASE-T RJ45 R6/6 DDM -40/85C

FORTINET FIREWALL APPLIANCE

2930F 24-PORT SWITCH



# EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY

EBRCS MICROWAVE UPGRADE AND MPLS IMPLEMENTATION

8/22/2019

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8/22/2019

Mr. Tom McCarthy,  
Executive Director  
East Bay Regional Communications System Authority  
4985 Broder Blvd.  
Dublin, California 94568

Subject: EBRCS Microwave Upgrade and MPLS Implementation

Dear Director McCarthy,

Motorola Solutions, Inc. ("Motorola") is pleased to provide the East Bay Regional Communications System Authority ("EBRCSA") the following Proposal to upgrade the 13 year old backhaul communications network. Motorola is honored and humbled by the shared trust EBRCSA continues to have in our partnership.

The backhaul network is an indispensable component of your overall public safety radio communications. We understand why EBRCSA may be less than eager to undertake this long anticipated and challenging upgrade. As a result, Motorola has taken great care to propose a solution that ensures you achieve the critical network resiliency and security advancements in the most economically and financially sound manner.

The solution we are proposing to upgrade your backhaul network includes:

- Microwave Communications Network Upgrade
- Multi-Protocol Label Switching (MPLS) Addition
- Network Transition from T1 circuits to Ethernet

Continuity of EBRCSA's network operations are paramount. Towards that end, Motorola has developed a measured, multi-year deployment plan to upgrade the existing backhaul network and transition to Ethernet. To help fit the backhaul upgrade within EBRCSA budget, Motorola is proposing the cost-effective lease-purchase program EBRCSA used to finance the TDMA upgrade in 2017.

This Proposal is a firm offer, subject to the terms and conditions of the existing Communications System Agreement (CSA) between EBRCSA and Motorola, dated July 07, 2009, extended on July 6, 2012, and extended again on July 6, 2017 through July 6, 2020. Under Section 3.4 of the existing contract, EBRCSA may purchase additional goods and services from the CSA. Motorola's proposal is based on the assumption that EBRCSA will use this right under Section 3.4 of the CSA for the proposed transaction. Therefore, as in the past, EBRCSA may accept the proposal by executing a Change Order to the current CSA.

Any questions EBRCSA has regarding this proposal can be directed to Gordon Poole, Senior Account Manager at (408) 306-5622, (gordon.poole@motorolasolutions.com).

We thank you for the continued privilege of furnishing EBRCSA with “best in class” solutions that help protect your first responders and assist their efforts saving lives and property.

Sincerely,

Motorola Solutions, Inc.



Micah Applewhite  
Territory Vice President



SECTION 1

# SOLUTION DESCRIPTION

## 1.1 SOLUTION OVERVIEW

Motorola is pleased to provide a proposal to EBRCSA to upgrade their existing Backhaul Network with the following components:

- **Microwave Backhaul Upgrade** – Motorola has partnered with Aviat to upgrade the existing TruePoint microwave radios to the latest ECLIPSE microwave radio and several microwave paths will be upgraded from 10 GHz to 11 GHz.
- **MPLS Addition** – Motorola has partnered with Nokia to include addition of MPLS routers in the EBRCS Backhaul Network and on that facilitate the transition to Ethernet based network.
- **Backhaul transition from T1 to Ethernet** – Concurrently with the MW upgrade and MPLS additions projects, Motorola will transition the system from current T1 connectivity to Ethernet based connectivity.

In order to facilitate EBRCSA to budget for these upgrade projects, Motorola has designed a special lease-purchase program. This would be the most cost effective, economical way for EBRCSA to finance, because the interest payments from the government entity are exempt from Motorola's federal income tax liability. Motorola shares this benefit by offering exceptionally low interest rates to EBRCSA.

Considering the importance of EBRCSA's network operations continuity, Motorola has developed a multi-year deployment plan to upgrade the existing backhaul network and transition to Ethernet. The goal is to help EBRCSA to avoid the performance challenges of large scale network changes by taking smaller, controlled steps.

## 1.2 MICROWAVE BACKHAUL UPGRADE

Motorola has partnered with Aviat to design, supply and implement the Microwave Backhaul Upgrade project. The scope of this proposal is to implement the replacement of the EBRCS existing Truepoint SONET system with new Eclipse TDM/IP Hybrid network while maintaining the T1 loop protection. Also, several microwave paths will be upgraded from 10 GHz to 11 GHz with the capacity increased from 24Mbps to 45Mbps.

### 1.2.1 Current Backhaul Overview

The existing system consists of three OC-3 loops and total of 50 links

- Alameda County (ALCO) loop – contains 31 links
- Contra Costa County (CCCO) loop – contains 12 links
- Richmond mini-loop – contains 7 links



There are 3 parallel paths between the ALCO loop and CCCO loop. Each loop has its own links.

- BALD MTN (BALD PEAK) – ROCKY RIDGE
- ROCKY RIDGE – ALAMEDA EOC
- ALAMEDA EOC – SANTA RITA JAIL PASSIVE REPEATER

Alameda County loop also has the link Sunol Ridge – Carol Drive contains 4-radio channels.

## 1.2.2 Microwave Backhaul Upgrade Components

### 1.2.2.1 Backhaul Design

All paths in the system, including rings and spurs, are designed in Pathloss using the Vigants-Barnett model and the Crane Rain Model. All paths in the system shall meet the following requirements.

- 2-way Link Availability Required Ring and Backbone: 99.9999% with link bandwidth is 180 Mbps
- 2-way Link Availability Required Spurs: 99.9999% with link bandwidth is 45Mbps
- The radios in loops are nonprotected, operated on L6, U6 or 11GHz and on the modulation 30MHz 256QAM 180Mbps
- The radios on spurs are protected, operated on U6 or 11GHz and on the modulation 10MHz 64QAM 45Mbps
- 9 paths in spurs are currently in 10GHz band using 10GHz antennas (Radio Waves) which support the range from 10.15 – 10.7 GHz. These links will need to be replaced with 11 GHz with the capacity increased from 24Mbps to 45Mbps. The existing antenna system will also need to be replaced with 11 GHz antenna system.
  1. BALD MTN (BALD PEAK) – SKYLINE (SPUR)
  2. LAKESIDE – OAKLAND PD (SPUR)
  3. LAKESIDE – PIEDMONT PD (SPUR)
  4. OAKLAND APL – BERKELEY PD (SPUR)
  5. SUNOL RIDGE – WARM SPRING (SPUR)
  6. DOOLAN WT – PATTERSON PS (SPUR)
  7. KREGOR PEAK – CONCORD PD (SPUR)
  8. PINE STREET - MARTINEZ (SPUR)
  9. WALNUT CREEK BART – WALNUT CREEK PD (SPUR)
- Some of links will need to use High Power (HP) or Extra High Power (EHP) radios in order to achieve 99.9999% reliability



### 1.2.2.2 Antennas and Transmission Lines

- Reuse existing antennas at most of the sites.
- It is assumed that the existing antennas, centerlines and waveguide lines can be reused for all existing 6/11 GHz RFU indoor hops. Reuse existing feedthroughs.
- For all ODU600 (outdoor RFU) will be outdoor remote-mounted to antenna and new 3ft Flextwist and new coaxial cables are proposed to replace existing coaxial cables. Assuming there is an existing conduit and passage for the Coax cable.
- 6 radios will need new Flextwist and Coax transmission lines for outdoor ODU600v2
  1. LAKESIDE (to Bald Peak)
  2. LAKESIDE (to Lawrence Berkeley Lab)
  3. OAKLAND APL (to Lawrence Berkeley Lab)
  4. OAKLAND APL (to Glen Dyer Jail)
  5. OAKLAND APL (to Emeryville FD)
  6. ANTIOCH PD (to Kregor Peak)
- 17 radios need new antennas and new Flextwist and transmission lines for ODU600v2 or IRU600v4
  1. LAKESIDE (to Oakland PD) needs for ODU600v2
  2. LAKESIDE (to Piedmont PD) needs for ODU600v2
  3. OAKLAND APL (to Berkeley PD) needs for ODU600v2
  4. MARTINEZ (to Pine Street) needs for ODU600v2
  5. CONCORD PD (to Kregor Peak) needs for ODU600v2
  6. WALNUT CREEK PD (to Walnut Creek Bart) needs for ODU600v2
  7. BALD MTN (to Skyline) needs for IRU600v4
  8. OAKLAND PD (to Lakeside) needs for IRU600v4
  9. PIEDMONT PD (to Lakeside) needs for IRU600v4
  10. BERKELEY PD (to Oakland APL) needs for IRU600v4
  11. SUNOL RIDGE (to Warm Spring) needs for IRU600v4
  12. WARM SPRING (to Sunol Ridge) needs for IRU600v4
  13. DOOLAN WT (to Patterson PS) needs for IRU600v4
  14. PATTERSON PS (to Doolan WT) needs for IRU600v4
  15. KREGOR PEAK (to Concord PD) needs for IRU600v4
  16. PINE STREET (to Martinez) needs for IRU600v4
  17. WALNUT CREEK BART (to Walnut Creek PD) needs for IRU600v4
- The plan is subject to change according to the site surveys.

### 1.2.2.3 Microwave Radios

- Most existing TruePoint radios will be replaced with IRU600v4 and INUe,
- 6 sites are required to have outdoor radio ODU600v2 and INUe, on U6 or 11GHz
  1. OAKLAND APL
  2. LAKESIDE
  3. ANTIOCH PD
  4. CONCORD PD
  5. MARTINEZ
  6. WALNUT CREEK PD
- 12 links have two radio types; one end is outdoor ODU600v2 and the other end is indoor IRU600v4.
  1. OAKLAND APL – LAWRENCE BERKELEY LAB
  2. OAKLAND APL – GLEN DYER JAIL
  3. LAKESIDE - LAWRENCE BERKELEY LAB
  4. LAKESIDE – BALD PEAK
  5. OAKLAND APL – BERKELEY PD (SPUR)
  6. OAKLAND APL – EMERYVILLE PD (SPUR)
  7. LAKESIDE – PIEDMONT PD (SPUR)
  8. LAKESIDE – OAKLAND PD (SPUR)
  9. ANTIOCH PD – KREGOR PEAK (SPUR)
  10. CONCORD PD – KREGOR PEAK (SPUR)
  11. MARTINEZ - PINE STREET (SPUR)
  12. WALNUT CREEK PD - WALNUT CREEK BART (SPUR)

### 1.2.2.4 Tributary Interface

- DS1 and Ethernet interface are equipped with radios at each site.
- DS1s in the loops will be loop-protected and terminated at DSX-1 jackfield.
- Ethernet in the loops will be loop-protected and routing by MPLS routers

### 1.2.2.5 T1 loop protection

All existing T1s on the SONET network will be migrated to new TDM/IP Hybrid network with NCM modules equipped with INUe shelves.

Motorola/Aviat propose protected Network Capabilities Module (NCM) with associated NCM software license that supports up to 63 T1 and T1 cables at each site in the ring to take care of T1 loop switching protection in place of existing SONET muxes.



The NCM provides E1/DS1 loop switch (ring protection) capability on an Eclipse Node. Each ring node that drops traffic must use an NCM to access two redundant traffic streams. TDM traffic is injected in both directions of the ring.

The NCM card has full access to the TDM backplane for working, protection, and drop connections as well as 8 drop interfaces on front of the card. If more than 8 T1 drops are needed, DAC16x to be used to take additional T1 drops. NCM will receive traffic from the backplane from both directions of the ring and select the best path.

Two NCMs are proposed in each INUe shelf to provide equipment protection.

#### 1.2.2.6 Network Management

The new ProVision management system is proposed. All the new Eclipse radios as well as existing Eclipse radios and all SNMP devices will be monitored by the ProVision. The ProVision can be implemented in parallel with existing NMS NetBoss allowing customer to familiarize themselves with the new product.

#### 1.2.2.7 Alarm Management

AUX cards and Alarm cables to existing M66 Blocks are proposed at each site.

#### 1.2.2.8 Rack

One or two 7ft racks equipped with a breaker panel are proposed at each site to installed new equipment. Two 8ft racks are proposed at ALAMEDA EOC. Motorola will run DC cables from new rack to distribution panel. It is assumed 30 feet from DC distribution panel

#### 1.2.2.9 Pressurization

Assuming customer would reuse their existing Dehydrator and manifold system and it would be able to support new equipment.

#### 1.2.2.10 DC Power Plant

Assuming customer would reuse their existing DC Power Plant system and it would be able to support new equipment.

#### 1.2.2.11 Demarcation

The demarcation point will be:

- For T1, it will be on new DS-1 circuits terminated on DSX-1 jackfield panel
- For Ethernet, it will be on Ethernet port on the DACGE3
- DS-1 traffic will not go through MPLS Routers. Routers will be a new overlay.

#### 1.2.2.12 Traffic Plan

- **T1 traffic:** Customer would like to support all current T1s for now since the actual transition to Ethernet will likely occur until after the microwave radio upgrade. In the

assumptions that the T1 traffic plan is the same as what we have when we built the system for the proposal now. Current Traffic is Public Safety.

- **Ethernet Traffic:** MPLS network design is based on Layer 3 architecture. Motorola will set up pipe for QoS, latency, etc. Traffic plan would need to be put together, so Motorola will develop Layer 3 network design.

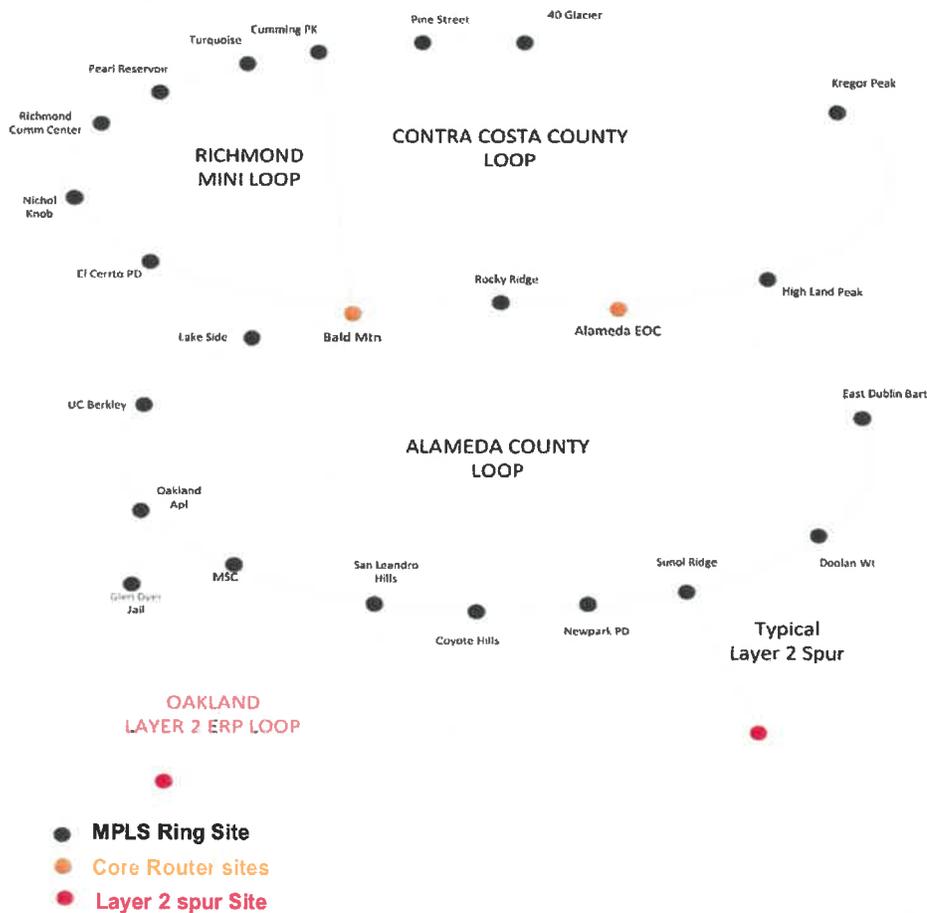
### 1.3 MPLS ADDITION

Motorola in partnership with Nokia is proposing MPLS solution based on the SAR platform.

The EBRCS MPLS network is divided into 3 OSPF loops so it becomes easy to implement and maintain the MPLS network. These three loops are:

- Alameda County Loop.
- Contra Cost County Loop
- Richmond Mini Loop

Each loop is connected to the core router to pass the traffic from on loop to the other.



## 1.3.1 MPLS Solution Components

Motorola has included a Nokia IP/MPLS transport system in the design that will reside on top of the microwave network to support all the routing and management of IP traffic throughout the simulcast RF subsite network. The MPLS transport system uses all COTS equipment designed for use with microwave in a public safety grade network. This design provides MPLS routers at all EBRCS sites except at two repeater sites and fifteen console dispatch locations which are configured as spurs in the EBRCS design. This approach allows Motorola to maintain the reliability and resiliency of the IP/MPLS design while reducing the need for additional hardware to support the migration to Ethernet.

Having the ability to accommodate multiple types of traffic is important as network applications converge to a data centric environment and rely on Ethernet and IP functionality. It's not always realistic to eliminate all of the existing TDM applications without a negative impact on services and operations. The MPLS designed network as proposed provides a smooth migration from traditional TDM to IP at the pace of each individual entity/user.

Motorola has designed a highly reliable IP/MPLS network solution that enables EBRCS to meet the performance requirements of all their mission-critical services and applications. The Nokia 7705 SAR platforms provided in this proposal will provide a highly reliable network platform from which Ethernet services will be delivered to end user applications. An IP/MPLS implementation offers advantages and savings such as:

- Optimizing the bandwidth available in the network to make possible the introduction of new applications.
- Reducing the dependency on leased lines.
- Extending services to remote areas.
- Satisfying the growing IT functions.
- Providing network virtualization with QoS guaranteed for priority traffic.
- Improving agency interoperability and access to critical information.

The Nokia 7705 Service Aggregation Router (SAR) delivers industry-leading IP/MPLS and pseudowire capabilities. Designed for scalability, it will give EBRCSA the greatest potential to grow their network, adding unprecedented numbers of end users and applications, without having to make additional capital investment. In addition, the 7705 SAR portfolio offers a comprehensive set of T1/E1, T3/E3, SONET/SDH, serial data and analog voice interfaces. With these features, EBRCSA can gracefully migrate their applications onto their new IP/MPLS network. Critical traffic is expedited when using either high-speed Ethernet or legacy low-bandwidth links to ensure application performance



7705 SAR-18



7705 SAR-8

This industry-leading, independently-validated High Availability feature has been inherited from the Service Router product line and is a strong contributor to overall network uptime.

Network uplink connectivity options are: Ethernet, FE, GigE,  $n \times T1$ / E1 MLPPP or  $n \times T1$ /E1 ATM IMA. Integrated DS3 point-to-point trunking is supported using the 4-port DS3 adapter card. OC-3/STM-1 trunking is supported using Packet over SONET/ SDH (POS) on the 4-port OC-3/STM-1 clear channel adapter card.

### 1.3.2 Network Management Solution

Motorola has proposed an integration of the MPLS equipment into the existing Unified Event Manager (UEM). EBRCSA will be able to perform Fault Management and receive all alarms coming from the MPLS equipment.

### 1.3.3 Improved Bandwidth and Traffic Control

An IP/MPLS network improves the bandwidth efficiency of a public safety network, reduces cost, enables easier access to existing databases, and enhances the safety of the general public as well as the safety of personnel delivering these services. MPLS has a built-in mechanism, called traffic engineering, which allows for the selection of the best path across the network, taking the physical paths of the links and interfaces into account. This mechanism is used in networks to ensure that the best link is chosen to optimize network bandwidth.

The 7705 SAR features a rich set of QoS mechanisms and can provide each service on the network with its own committed information rate and peak information rate as well as a priority value to use as it traverses the network. Strong QoS capabilities ensure service-level awareness and effective management of multiple traffic streams, providing guaranteed levels of QoS, especially constraints for delay and delay variation, for maintaining Service Level Agreements for the different entities using the IP/MPLS network.

### 1.3.4 Network Resiliency

The 7705 SAR features redundant power supplies, fans, controller cards, Ethernet cards, and Ethernet SFP optics modules to provide the highest levels of resiliency. Through the use of industry standard protocols like OSPF and MPLS combined with our custom enhancements, the IP/MPLS system can route services around network failures while maintaining service level agreements for critical traffic.

The microwave loop topology also provides a reliable architecture because traffic can be rerouted to the opposite direction if a physical failure occurs in a link connecting any adjacent sites. The IP/MPLS network uses the MPLS fast reroute feature for resiliency where traffic is rerouted around a failure with sub-50 millisecond restoration time. This ensures that services on the network are not affected.

### 1.3.5 Service Definition Requirements

It is critical to maintain the end-to-end quality of service (QoS) for packet traffic. Not all types of traffic have the same set of requirements. Voice traffic in particular requires low latency and jitter (latency variation) as well as low loss, whereas data traffic often has less stringent delay requirements but may be very sensitive to loss, as packet loss can seriously constrain

application throughput. To offer the required treatment throughout the network, traffic flows with different requirements are identified at the access and marked in-line with the appropriate QoS metrics. Traffic classification and marking are carried out based on the following categories:

- Time slot/port.
- Ethernet port/VLAN
- ATM service category (CBR/rt-VBR/ nrt-VBR/UBR)
- ATM VC
- Ethernet 802.1p/VLAN
- IP DSCP/MPLS EXP

The Nokia solution is unique in that its management system allows for true end to end provisioning of individual services from one end of the network to the other through multiple intermediate hops in under a minute with all the necessary QoS settings, bandwidth guarantees, and resiliency options provisioned. The solution offers every type of service connectivity option that a modern communications network requires. Service offerings include:

- Point to point TDM circuit emulation (Cpipe) for carrying circuits like T1s or RS232.
- Point to point Ethernet layer 1 (Epipe) – acts like a virtual patch cable.
- Point to multipoint Ethernet layer 2 (VPLS) – acts like a VLAN.
- Point to multipoint IP Layer 3 (VPRN) – acts like a virtual routed network.

The Nokia 7705 SAR utilizes extensive traffic management policies to ensure fairness with detailed classification and hierarchical scheduling including: minimum/maximum, queue type- based weighted round robin or strict priority and profiled scheduling, as well as multi-tier policing to differentiate and prioritize individual services and flows.

### 1.3.6 Quality of Service Requirements

The 7705 SAR can buffer thousands of individual services and then shape them to a strict SLA with Committed Information Rate (CIR) and Peak Information Rate (PIR) type guarantees.

Buffer allocation is programmable per-service to accommodate different maximum burst sizes (MBS). Each service can use up to eight queues to enable shaping, policing and marking of different flows. The 7705 can also shape and police on service egress. The 7705 SAR traffic classification is carried out based on Layer 1/Layer 2/Layer 2.5 and/or Layer 3 header, but not layer 4 (TCP/UDP port #).

## 1.4 BACKHAUL TRANSITION FROM T1 TO ETHERNET

The upgraded MW Backhaul will support simultaneously all current T1 traffic and new Ethernet traffic. The actual transition from T1 to Ethernet will likely occur until after the microwave radio upgrade and integration of the new MPLS equipment.

The Backhaul transition from T1 to Ethernet will be performed in several steps:

- Upgrade the P25 system to A2019 (keep existing T1 site links)
- Upgrade Microwave Network to Hybrid Radio configuration (all traffic still on T1)

- Integrate MPLS into the new Microwave Network (using Ethernet part of the Hybrid Radio)
- Migrate Repeater Sites and Dispatch Centers to Ethernet Site links
- Migrate Simulcast Subsystems to Ethernet

It is assumed that the T1 traffic plan has not changed and thus will be supported with the upgraded system. A more detailed transition plan will be developed during the Design Review.

During the creation of this project design, the following locations were identified as having both microwave (on the "A") and leased T1 connectivity (on the "B") to each site: ACCREC, WCPD, Oakland Fire, Oakland Law, Piedmont and Oakland Housing.

The following locations have fiber connectivity: Pleasant Hill PD and Concord PD (it has one link as microwave and one link as fiber).

Nokia SAR has been included for the following locations to allow for the migration to Ethernet connectivity:

SAR-8 Sites									
1	106_NM/Disp/Conv	10	Coyote Hills	19	Hayward Annex	28	Oakland HA PD	37	Turquoise (CCCO West Prime)
2	651 Pine	11	Cummings Peak (Prime CCCO Central+ RF for CCCO West)	20	Hayward PD	29	Patterson Pass	38	UC Berkeley PD
3	ACRECC	12	Doolan WT	21	Highland Peak	30	Pearl	39	UC Berkeley/KALX
4	ALCO Sheriff/San Leandro COM	13	East Dublin BART	22	Lakeside	31	Pleasant Hill PD	40	Walnut Creek BART
5	Alta Mesa Moraga	14	EB Regional Parks	23	Los Vaqueros	32	Rocky Ridge	41	Walpert Ridge
6	Benicia PD	15	EI Cerrito PD	24	MSC	33	Richmond PD/Fire	42	Warm Springs
7	CCCO Fire	16	Fremont PD	25	Newark PD	34	Seneca		
8	CCCO NMD	17	Garin WT	26	Nichol Knob	35	Shadybrook		
9	CCCO Sheriff/40 Glacier	18	Glenn Dyer Jail (ALCO NW Prime)	27	Oakland Fire	36	Skyline Reservoir		
SAR-18 Sites									
1	Bald Peak	2	San Leandro Hills (Alco SW Prime)	3	Sunol Ridge	4	Kregor Peak Prime for CCCO East + RF for CCCO Central)	5	Oakland APL

The sites not included in the MPLS design will support only LMR traffic.



## 1.5 EQUIPMENT LIST

This section lists the equipment necessary for the proposed solution.

SUBSYSTEM	DESCRIPTION	PART NUMBER	TOTAL QTY
Microwave	<b>IRU600v4</b>		
Microwave	<b>6GHz</b>		
Microwave	IRU600v4 RFSEC ASSY NP, IF TR SP-HP 5.8-U6 GHz, Filter-non ACCP * in loop: 30MHz, 256Q, 180Mbps	EV202-AMT-000-410000	6
Microwave	IRU600v4 RFSEC ASSY NP, IF TR EHP U6 GHz, Filter-non ACCP * in loop: 30MHz, 256Q, 180Mbps	EV202-AEU-000-410000	4
Microwave	IRU600v4 RFSEC ASSY MHSB RX UNEQUAL SPLIT, IF TR SP-HP 5.8-U6 GHz, Filter-non ACCP * in spur: 10MHz, 64Q, 45Mbps	EV206-AMT-AM0-410000	2
Microwave	IRU600v4 RFSEC ASSY MHSB/SD TX SWITCH, IF TR SP-HP 5.8-U6 GHz, Filter-non ACCP * in spur: 10MHz, 64Q, 45Mbps * spur Sunol Ridge - Carroll Drive 30MHz 256Q 180Mbps	EV207-AMT-AM0-410000	5
Microwave	<b>11GHz</b>		
Microwave	IRU600v4 RFSEC ASSY NP, IF TR SP-HP 10.5-11 GHz, Filter-non ACCP * in loop: 30MHz, 256Q, 180Mbps	EV202-AMC-000-410000	36
Microwave	IRU600v4 RFSEC ASSY NP, IF TR EHP 11 GHz, Filter-non ACCP * in loop: 30MHz, 256Q, 180Mbps	EV202-AEB-000-410000	6
Microwave	IRU600v4 RFSEC ASSY MHSB RX UNEQUAL SPLIT, IF TR SP-HP 10.5-11 GHz, Filter-non ACCP * in spur: 10MHz, 64Q, 45Mbps	EV206-AMC-AM0-410000	31
Microwave	IRU600v4 RFSEC ASSY MHSB RX UNEQUAL SPLIT, IF TR EHP 11 GHz, Filter-non ACCP * in spur: 10MHz, 64Q, 45Mbps	EV206-AEB-AE0-410000	3
Microwave	<b>ODU600v2</b>		
Microwave	ODU 600v2, 11 GHZ, PLANNING PART NUMBER * in loop: 30MHz, 256Q, 180Mbps * in spur: 10MHz, 64Q, 45Mbps	M-ECH-11	20
Microwave	Coupler Assy ODU 600v2 , 10/11 GHz Unequal 6 dB, V and H Pole	086-523300-116	8
Microwave	WTM 4100/4200 ODU600v2 10/11 GHz Waveguide Transition Kit, WR 90 waveguide, UDR 100 flange	179-530500-011	12
Microwave	Remote Mount Bracket Assembly ODU600v2	179-530502-001	24
Microwave	ECLIPSE POLE MOUNT FOR USE WITH SINGLE ODU OR PROTECTION COUPLER (RM99/DE)	086-000000-101	
Microwave	<b>IRU600v4 WAVEGUIDE EXT KIT</b>		
Microwave	<b>6GHz</b>		
Microwave	WG EXT KIT IRU600 V3 6GHZ SH1-PO1, 1+0/MHSB 1ANT, RPTR(MAIN)	179-530135-AA101	3
Microwave	WG EXT KIT IRU600 V3 6GHZ SH1-PO1, 1+0/MHSB 2 ANT, MHSB/SD	179-530135-AA103	5



SUBSYSTEM	DESCRIPTION	PART NUMBER	TOTAL QTY
Microwave	WG EXT KIT IRU600 V3 6GHZ SH2-PO2, 1+0/MHSB 1ANT, RPTR(MAIN)	179-530135-BB201	6
Microwave	WG EXT KIT IRU600 V3 6GHZ SH3-PO3, 1+0/MHSB 1ANT, RPTR(MAIN)	179-530135-CC301	2
Microwave	WG EXT KIT IRU600 V3 6GHZ SH4-PO4, 1+0/MHSB 2 ANT, MHSB/SD	179-530135-DD403	3
Microwave	<b>11GHz</b>		
Microwave	WG EXT KIT IRU600 V3 11GHZ SH1-PO1, 1+0/MHSB 1ANT, RPTR(MAIN)	179-530135-AA121	43
Microwave	WG EXT KIT IRU600 V3 11GHZ SH2-PO2, 1+0/MHSB 1ANT, RPTR(MAIN)	179-530135-BB221	23
Microwave	WG EXT KIT IRU600 V3 11GHZ SH3-PO3, 1+0/MHSB 1ANT, RPTR(MAIN)	179-530135-CC321	9
Microwave	WG EXT KIT IRU600 V3 11GHZ SH4-PO3, 1+0/MHSB 1ANT, RPTR(MAIN)	179-530135-DD321	2
Microwave	<b>WAVEGUIDE EXT BRACKET KIT</b>		
Microwave	EXT BRKT KIT IRU600 2 SHELF	179-530089-001	18
Microwave	EXT BRKT KIT IRU600 3 SHELF	179-530089-002	9
Microwave	EXT BRKT KIT IRU600 4 SHELF	179-530089-003	6
Microwave	CUSTOM WAVEGUIDE KIT COMPLEXITY 1	WGKIT-1000	43
Microwave	<b>INUe</b>		
Microwave	ECLIPSE, INTELLIGENT NODE UNIT 2RU, INC IDCE, FAN, NCCV2, HIGH OUTPUT	EXX-000-204	113
Microwave	KIT BRACKET 2RU	179-530064-001	113
Microwave	NODE PROTECTION CARD, HIGH OUTPUT	EXS-002	113
Microwave	<b>RAC</b>		
Microwave	RAC 70, QPSK-4096QAM, NO XPIC, ACM	EXR-700-001	155
Microwave	<b>DAC OC-3</b>		
Microwave	DAC 1550M, 1XSTM1/OC3 MUXED TO 63E1/84DS1, SM OPTICAL, S-1.1, SR, 15KM OR LESS	EXD-156-001	163
Microwave	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 3M/9.8FT	LOC-203-3500-003/3MIL	74
Microwave	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 5M/16.4FT	LOC-203-3500-005/3MI	21
Microwave	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 10M/32.8FT	LOC-203-3500-010/3MI	8
Microwave	<b>DAC DS1</b>		
Microwave	NETWORK CONVERGENCE MODULE (NCM)	EXD-400-002	60
Microwave	ECLIPSE, DAC 16XE1/DS1 V3, PROTECTABLE	EXD-161-002	142
Microwave	2x HDR-E50 TO Y JOIN TO 24AWG FREE END 3.5M	037-579408-003	144
Microwave	2x HDR-E50 TO Y JOIN TO 24AWG FREE END 15.5M	037-579408-015	2
Microwave	<b>DAC ETHERNET</b>		
Microwave	DAC GE3 GIGABIT ETHERNET SWITCH CARD	EXD-181-002	162
Microwave	CABLE PROT / BRIDGEING GE3, DIRECT FIT, 500mm	037-579461-500	77
Microwave	XCVR ELECTRICAL SFP, GE3 ONLY, W/LOS 3V3 COM	083-845434-001	158
Microwave	ETHERNET CABLE, RJ45 CAT 5/CAT 5e, 2m (6.5')	037-579124-002	104
Microwave	ETHERNET CABLE,CAT5/CAT5E,RJ-45,5 M LONG	037-579125-002	28



SUBSYSTEM	DESCRIPTION	PART NUMBER	TOTAL QTY
Microwave	ETHERNET CABLE,CAT5/CAT5E,RJ-45,15 M LONG	037-579126-002	6
Microwave	GIG ETH SFP, OPT SMF 1310nm LC 1000BASE-LX, <10 KM	079-422656-001	156
Microwave	CABLE, OPTICAL JMPR, LC-LC, SM-DUP, 9/125UM, 10M/32.8FT	LOC-203-3500-010/3MI	156
Microwave	<b>ALARM CARD</b>		
Microwave	AUX, ALARM I/O CARD	EXA-001	54
Microwave	CABLE, ALARM I/O HD15 TO WIREWRAP, 15M	037-579470-015	54
Microwave	<b>Software Licenses</b>		
Microwave	IRU600 600 High power option 1 x RFU	EZF-61	9
Microwave	IRU600 600 Nodal High power option 2 x RFU	EZF-62	4
Microwave	ODU 600 High power option 1 x ODU	EZF-51	1
Microwave	ODU 600 Nodal High power option 2 x ODU	EZF-52	1
Microwave	NODE SW LICENSE, 400 Mbps TOTAL RADIO PAYLOAD CAPACITY	EZE-08006	5
Microwave	NODE SW LICENSE, 200 Mbps TOTAL RADIO PAYLOAD CAPACITY	EZE-08004	48
Microwave	NODE SW LICENSE, 100 Mbps TOTAL RADIO PAYLOAD CAPACITY	EZE-08002	2
Microwave	50 Mbps Node radio capacity License	EZE-08001	59
Microwave	NCM LOOP SWITCH License to support up to 50E1/63T1 TDM circuits	EZF-14	33
Microwave	LAYER 1 LINK AGGREGATION NODAL ON DAC GE / DAC GE3	EZF-01	79
Microwave	CIRCUIT BREAKER 15 AMP SNAPAK	PWR-000052-TRM	226
Microwave	SIPQ-CABLES - All Equipment interconnections	SIPQ-CABLES	47
Microwave	<b>SPARES</b>		
Microwave	<b>IRU600v4</b>		
Microwave	RFU, MP, IRU600v4 IF TR, 5.8-L6-U6 GHz, 5725-7125 MHz	ERM-ATT-400	2
Microwave	RFU, MP, IRU600v4 IF TR, 10.5-11 GHz, 10500-11700 MHz	ERM-ACC-400	2
Microwave	RFU, EHP, IRU600v4 IF TR, L6 GHz, 5925-6425 MHz	ERE-AL6-400	
Microwave	RFU, EHP, IRU600v4 IF TR, U6 GHz, 6400-7125 MHz	ERE-AU6-400	2
Microwave	RFU, EHP, IRU600v4 IF TR, 11 GHz, 10700-11700 MHz	ERE-ABB-400	2
Microwave	FAN TRAY KIT, IRU600v4 (2 Fan Trays per Kit)	179-531050-001	2
Microwave	<b>ODU600v2</b>		
Microwave	ODU 600v2, 11 GHZ, PLANNING PART NUMBER	M-ECH-11	4
Microwave	KIT, LIGHTNING ARRESTOR, UNIVERSAL, 50 OHM, MALE TO FEMALE	179-530062-002	4
Microwave	<b>INUe</b>		
Microwave	INUe, 2RU FAN CARD EXTENDED LIFE	EXF-102	2
Microwave	Air Filter Assembly INUe	131-501768-001	2
Microwave	ECLIPSE, NODE CONTROLLER CARD, SERIAL MGMT V2	EXN-004	2
Microwave	NODE PROTECTION CARD, HIGH OUTPUT	EXS-002	2
Microwave	RAC 70, QPSK-4096QAM, NO XPIC, ACM	EXR-700-001	2



SUBSYSTEM	DESCRIPTION	PART NUMBER	TOTAL QTY
Microwave	DAC 1550M, 1XSTM1/OC3 MUXED TO 63E1/84DS1, SM OPTICAL, S-1.1, SR, 15KM OR LESS	EXD-156-001	2
Microwave	NETWORK CONVERGENCE MODULE (NCM)	EXD-400-002	2
Microwave	ECLIPSE, DAC 16XE1/DS1 V3, PROTECTABLE	EXD-161-002	2
Microwave	DAC GE3 GIGABIT ETHERNET SWITCH CARD	EXD-181-002	2
Microwave	AUX, ALARM I/O CARD	EXA-001	2
Microwave	<b>JACKFIELDS</b>		
Microwave	JACKFIELD, FIXED, DSX-1, 56 CIRCUITS, 4 RU, 19 INCHES OR 23 INCHES WIDTH, FRONT WIREWRAP X-CONN, REAR WIREWRAP, BLACK, -48VDC INPUT (010-0156-0601)	TEL-010-0156-0601	39
Microwave	JACKFIELD, FIXED, DSX-1, 32 CIRCUITS, 2 RU, 19 INCHES OR 23 INCHES WIDTH, FRONT WIREWRAP X-CONN, REAR WIREWRAP, BLACK, -48VDC INPUT	TEL-010-0132-0101	23
Microwave	CIRCUIT BREAKER 1 AMP SNAPAK	PWR-000046-TRM	62
Microwave	<b>RACK &amp; ACCESSORIES</b>		
Microwave	RACK ASSY CRATED, 7' CHATSWORTH ALUMINUM, 1 BREAKER PNL W/10 BLANK COVERS AND NO BREAKERS	179-530307-0113	50
Microwave	RACK ASSY CRATED, 8' CHATSWORTH ALUMINUM, 1 BREAKER PNL W/10 BLANK COVERS AND NO BREAKERS	179-530307-0115	2
Microwave	Installation Kit, Aluminum Rack, Concrete Floor	179-530119-001	52
Microwave	GROUND BAR, KIT, RACK, R56 COMPLIANT, 72 INCHES L X 5/8 INCHES WIDE X 1/4 INCHES DEPTH	LOC-TRGBVKIT145872W	52
Microwave	CHANNEL MOUNTING, FORWARD, U-SHAPE, 4 INCHES LONG (FORWARD) X 5/8 INCHES WIDE X 1.75 INCHES HIGH (1 RU)	020-018475-005	156
Microwave	6A/6B POS., +/-48-24VDC, W/O BRKRS, 19"	PWR-000070-TRM	8
Microwave	STANDARD DC AND GND KIT	179-530118-001	8
Microwave	CIRCUIT BREAKER 3 AMP SNAPAK	PWR-000048-TRM	4
Microwave	ETHERNET CABLE, RJ45 CAT 5/CAT 5e, 2m (6.5')	037-579124-002	2
Microwave	ETHERNET CABLE, CAT5/CAT5E, RJ-45, 5 M LONG	037-579125-002	2
Microwave	ETHERNET CABLE, CAT5/CAT5E, RJ-45, 15 M LONG	037-579126-002	2
Microwave	<b>FLEXTWIST, WAVEGUIDE, ACCESSORIES</b>		
Microwave	<b>For ODU600v2 Remote-Mount reusing existing antenna</b>		
Microwave	WR90ODU-KIT (ONE KIT REMOTE MOUNT)	AND-WR90ODU-KIT	7
Microwave	CABLE, ODU, 9913, WITH CONN/GROUND KIT, 50M(164FT) CNT400 CCAL TYPE	037-579311-050	4
Microwave	CABLE, ODU, 9913 WITH CONN.GROUND KIT, 100M(328FT) CNT400 TYPE	037-579311-100	
Microwave	CABLE, ODU, 9913, WITH CONN/GROUND KIT, 150M(492FT) CNT400 CCAL TYPE	037-579311-150	6
Microwave	LIGHTNING ARRESTOR KIT, UNIVERSAL, 50 OHM, TYPE N, MALE TO FEMALE * This arrestor is supplied with a 1M long ground cable and	179-530062-002	10



SUBSYSTEM	DESCRIPTION	PART NUMBER	TOTAL QTY
	a 2 hole termination lug		
Microwave	ADAPTER, ANGLE, SS, FOR MINI CLICK-ON HANGAERS (10/PK)	179-530160-005	103
Microwave	MINIATURE CLICK-ON HANGER FOR 9-12 MM	179-530160-007	103
Microwave	HARDWARE, SNGL STACK, SS, FOR MINI CLICK -ON HANGERS (10/PK)	AND-252027-10KT-P	103
Microwave	WG CUSHION ASSY LMR-400 3/8" FLEX, 2 HOLES (Bag of 5 Kits)	VLT-SRLR42-K	163
Microwave	LMR-400 STANDARD BLK UV RATED	WEB-LMR-400	2200
Microwave	CONNECTOR KIT N TYPE M&F 400 TYPE CABLE	179-530057-001	16
Microwave	KIT, LIGHTNING ARRESTOR, UNIVERSAL, 50 OHM, MALE TO FEMALE	179-530062-002	8
Microwave	UNIVERSAL COAXIAL GROUNDING KIT	086-523257-001	24
Microwave	GROUND CONDUCTOR TOWER TERMINATION	023-380000-001	24
Microwave	WEATHERPROOFING KIT	011-390001-001	8
Microwave	HOISTGRIP, FOR 3/8IN CNT-400 CBL	AND-C2SGRIP	8
Microwave	THREAD ROD SUPPORT 12IN (305MM) LONG, KIT OF 5	AND-31771-4	19
Microwave	ADAPTER, ANGLE, SS, FOR MINI CLICK-ON HANGAERS (10/PK)	179-530160-005	73
Microwave	HARDWARE, SNGL STACK, SS, FOR MINI CLICK -ON HANGERS (10/PK)	AND-252027-10KT-P	73
Microwave	MINIATURE CLICK-ON HANGER FOR 9-12 MM	179-530160-007	73
Microwave	WG CUSHION ASSY LMR-400 3/8" FLEX, 2 HOLES (Bag of 5 Kits)	VLT-SRLR42-K	140
Microwave	<b>For ODU600v2 Remote Mount - replace 10GHz to 11 GHz</b>		
Microwave	WR90ODU-KIT (ONE KIT REMOTE MOUNT)	AND-WR90ODU-KIT	6
Microwave	CABLE, ODU, 9913, WITH CONN/GROUND KIT, 50M(164FT) CNT400 CCAL TYPE	037-579311-050	10
Microwave	LIGHTNING ARRESTOR KIT, UNIVERSAL, 50 OHM, TYPE N, MALE TO FEMALE	179-530062-002	10
Microwave	ADAPTER, ANGLE, SS, FOR MINI CLICK-ON HANGAERS (10/PK)	179-530160-005	55
Microwave	MINIATURE CLICK-ON HANGER FOR 9-12 MM	179-530160-007	55
Microwave	HARDWARE, SNGL STACK, SS, FOR MINI CLICK -ON HANGERS (10/PK)	AND-252027-10KT-P	55
Microwave	WAVEGUIDE CUSHION HANGER, KITS, LMR-400 3/8" FLEX, 2-HOLE (BAG OF 5 KITS)	VLT-SRLR42-K	33
Microwave	LMR-400 STANDARD BLK UV RATED	WEB-LMR-400	1600
Microwave	CONNECTOR KIT N TYPE M&F 400 TYPE CABLE	179-530057-001	12
Microwave	KIT, LIGHTNING ARRESTOR, UNIVERSAL, 50 OHM, MALE TO FEMALE	179-530062-002	6
Microwave	UNIVERSAL COAXIAL GROUNDING KIT	086-523257-001	18
Microwave	GROUND CONDUCTOR TOWER TERMINATION	023-380000-001	18
Microwave	WEATHERPROOFING KIT	011-390001-001	6
Microwave	HOISTGRIP, FOR 3/8IN CNT-400 CBL	AND-C2SGRIP	6



SUBSYSTEM	DESCRIPTION	PART NUMBER	TOTAL QTY
Microwave	THREAD ROD SUPPORT 12IN (305MM) LONG, KIT OF 5	AND-31771-4	6
Microwave	ADAPTER, ANGLE, SS, FOR MINI CLICK-ON HANGAERS (10/PK)	179-530160-005	52
Microwave	HARDWARE, SNGL STACK, SS, FOR MINI CLICK -ON HANGERS (10/PK)	AND-252027-10KT-P	52
Microwave	MINIATURE CLICK-ON HANGER FOR 9-12 MM	179-530160-007	52
Microwave	WG CUSHION ASSY LMR-400 3/8" FLEX, 2 HOLES (Bag of 5 Kits)	VLT-SRLR42-K	104
Microwave	<b>Changing 10GHz to 11GHz Materials</b>		
Microwave	<b>Antennas</b>		
Microwave	ANTENNA, 11 GHZ, 1.0 M (3FT), VALULINE, HPLP, REMOTE MOUNT, PARABOLIC (STD: WHITE), 10.1-11.7 GHZ, RADOME (STD: WHITE), CPR90G, SINGLE POLARIZED, CLASS III/FCC101A/B, SINGLE PIECE REFLECTOR, 250 KMPH, 200 KMPH 1.0 m   3 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 10.125–11.700 GHz, CPR90G flange, white antenna, composite broadband grey radome without flash, standard pack—one-piece reflector	AND-VHLP3-11W-6WH	18
Microwave	LEG MOUNT, UP TO 6 FEET ANTENNA DIAMETER, UP TO 8 INCHES DEPTH DIAMETER LEG, WITH WAVEGUIDE EQUIPMENT PROTECTION SHIELD KIT	179-530147-001	17
Microwave	<b>Waveguide &amp; Accessories</b>		
Microwave	ELLIPTICAL WAVEGUIDE STANDARD, 10.2-11.7 GHZ, BLACK PE JACKET, PER FOOT	AND-EW90-F	1470
Microwave	EW90INSTALL-KIT (ONE KIT PER WAVEGUIDE RUN)	AND-EW90INSTALL-KIT	12
Microwave	HARDWARE-KIT (ONE KIT PER 100FT)	AND-HARDWARE-KIT	16
Microwave	WG CUSHION EW-90 1 HOLE (Bag of 5 Kits)	VLT-SREW90-K	99
Microwave	ENTRY BOOT, 4" CABLE BOOT ASSEMBLY FOR EW90, 1-HOLE	020-500001-001	12
Microwave	<b>PROVISION NMS MANAGEMENT</b>		
Microwave	Provision INM Complete Single Server - Hardware and Software Configured INCLUDES: * PV-INM-GPS7118 PROVISION INM REMOTE INSTALLATION SERVICE - ONE PER INM SERVER * PV-INM-278-0182 PROVISION INM SERVER HARDWARE - SR6.0 SINGLE SERVER W12 HP DL380 G8 Rack Mountable 2RU 2-way, 12GB RAM, 6x146GB & 3x300GB HDDs, WS2012 R2 STD * PV-INM-SYBASE PROVISION INM SYBASE SOFTWARE * PV-INM-ADAPTERS PROVISION INM ADAPTERS	PV-INM-SERVER-001	1
Microwave	KVM SWITCH, 8-PORT NETDIRECTOR 1U RACKMOUNT CONSOLE KVM SWITCH W/17" LCD	LOC-B020-008-17	2
Microwave	MOUNTING BRACKET, 2-POST RACK MOUNT BRACKET FOR 614-100137-001 KVM CONSOLE	614-100137-002	1



SUBSYSTEM	DESCRIPTION	PART NUMBER	TOTAL QTY
MPLS	<b>NOKIA MPLS EQUIPMENT</b>		
MPLS	<b>Small MPLS Routers</b>		
MPLS	SAR-8 SHELF V2	DSMW3HE06791AA	42
MPLS	CONTROL SWITCH MODULE V2 (CSMV2) 48	DSMW3HE02774AB	84
MPLS	SAR RELEASE 9.0 BASIC OS LICENSE	DSMW3HE02784MA	42
MPLS	FAN MODULE (SAR-8 SHELF V2) EXT TEM	DSMW3HE06792EA	42
MPLS	PMC CARD W/ 4 GIG-E SFP BUNDLE (1)	DSMW3HE11473AK	84
MPLS	SFP - GIGE BASE-T RJ45 R6/6 DDM -40	DSMW3HE11904AA	168
MPLS	<b>Large MPLS Routers</b>		
MPLS	SAR-18 SHELF	DSMW3HE04991AA	5
MPLS	CONTROL SWITCH MODULE FOR SAR-18	DSMW3HE04992AA	10
MPLS	SAR-18 RELEASE 9.0 BASIC OS LICEN	DSMW3HE05574HA	5
MPLS	FAN MODULE FOR SAR-18	DSMW3HE04993AA	5
MPLS	PMC CARD W/ 4 GIG-E SFP BUNDLE (1)	DSMW3HE11473AK	20
MPLS	SFP - GIGE BASE-T RJ45 R6/6 DDM -40	DSMW3HE11904AA	40
MPLS	BREAKER, 10 AMP	DSSP4KHAM10B1A	120
MPLS	<b>Spares</b>		
MPLS	SAR-8 SHELF V2	DSMW3HE06791AA	4
MPLS	CONTROL SWITCH MODULE V2 (CSMV2) 48	DSMW3HE02774AB	8
MPLS	SAR RELEASE 9.0 BASIC OS LICENSE	DSMW3HE02784MA	4
MPLS	FAN MODULE (SAR-8 SHELF V2) EXT TEM	DSMW3HE06792EA	4
MPLS	PMC CARD W/ 4 GIG-E SFP BUNDLE (1)	DSMW3HE11473AK	8
MPLS	SFP - GIGE BASE-T RJ45 R6/6 DDM -40	DSMW3HE11904AA	16
MPLS	SAR-18 SHELF	DSMW3HE04991AA	2
MPLS	CONTROL SWITCH MODULE FOR SAR-18	DSMW3HE04992AA	4
MPLS	SAR-18 RELEASE 9.0 BASIC OS LICEN	DSMW3HE05574HA	2
MPLS	FAN MODULE FOR SAR-18	DSMW3HE04993AA	2
MPLS	PMC CARD W/ 4 GIG-E SFP BUNDLE (1)	DSMW3HE11473AK	8
MPLS	SFP - GIGE BASE-T RJ45 R6/6 DDM -40	DSMW3HE11904AA	16
MPLS	<b>NMS</b>		
MPLS	FORTINET FIREWALL APPLIANCE	T8586	2
MPLS	2930F 24-PORT SWITCH	CLN1868	2

SECTION 2

# IMPLEMENTATION PLAN

## 2.1 STATEMENT OF WORK

Motorola will install and configure the proposed equipment. The following table describes the tasks involved with installation and configuration.

Tasks	Motorola	EBRCSA
<b>PROJECT INITIATION</b>		
<b>Contract Finalization and Team Creation</b>		
Execute contract and distribute contract documents.	X	X
Assign a Project Manager as a single point of contact.	X	X
Assign resources.	X	X
Schedule project kickoff meeting.	X	X
Deliverable: Signed contract, defined project team, and scheduled project kickoff meeting.		
<b>Project Administration</b>		
Ensure that project team members attend all meetings relevant to their role on the project.	X	X
Record and distribute project status meeting minutes.	X	
Maintain responsibility for third-party services contracted by Motorola.	X	
Complete assigned project tasks according to the project schedule.	X	X
Submit project milestone completion documents.	X	
Upon completion of tasks, approve project milestone completion documents.		X
Conduct all project work Monday thru Friday, 8:00 a.m. to 5:00 p.m.).	X	
Deliverable: Completed and approved project milestones throughout the project.		
<b>Project Kickoff</b>		
Introduce team, review roles, and decision authority.	X	X
Present project scope and objectives.	X	
Review SOW responsibilities and project schedule.	X	X
Schedule Design Review.	X	X
Deliverable: Completed project kickoff and scheduled Design Review.		



Tasks	Motorola	EBRCSA
<b>Design Review</b>		
Review the Customer's operational requirements.	X	X
Present the system design and operational requirements for the solution.	X	
Present installation plan.	X	
Present preliminary cutover plan and methods to document final cutover process.	X	
Present configuration and details of sites required by system design.	X	
Validate that Customer sites can accommodate proposed equipment.	X	X
Provide approvals required to add equipment to proposed existing sites.		X
Review safety, security, and site access procedures.	X	
Present equipment layout plans and system design drawings.	X	
Provide backhaul performance specifications and demarcation points.	X	
Provide heat load and power requirements for new equipment.	X	
Provide information on existing system interfaces.		X
Assume liability and responsibility for proving all information necessary for complete installation.		X
Assume responsibility for issues outside of Motorola's control.		X
Complete the required forms required for frequency coordination and licensing.	X	
Ensure that frequency availability and licensing meet project requirements, and pay licensing and frequency coordination fees.		X
Review and update design documents, including System Description, Statement of Work, Project Schedule, and Acceptance Test Plan, based on Design Review agreements.	X	
Execute Change Order in accordance with all material changes to the Contract resulting from the Design Review.	X	
Deliverable: Finalized design documentation based upon "frozen" design, along with any relevant Change Order documentation.		
<b>SITE PREPARATION AND DEVELOPMENT</b>		
<b>Site Access</b>		
Provide site owners/managers with written notice to provide entry to sites identified in the project design documentation.		X
Ensure that sufficient space is available at the site for heavy-duty construction vehicles to maneuver under their own power, without assistance from other equipment.		X
Obtain site licensing and permitting, including site lease/ownership, zoning, permits, regulatory approvals, easements, power, and telco connections.		X



Tasks	Motorola	EBRCSA
Deliverable: Access, permitting, and licensing necessary to install system equipment at each site.		
<b>Site Planning</b>		
Provide necessary buildings, equipment shelters, and towers for installation of system equipment.		X
Provide the R56 requirements for space, power, grounding, HVAC, and connectivity requirements at each site.	X	
Provide adequate electrical power in proper phase and voltage at sites.		X
Provide as-built structural and foundation drawings of the structures and site locations, along with geotechnical reports, in order to facilitate a structural analysis.		X
Perform structural analysis of towers, rooftops, or other structures to confirm that they are capable of supporting proposed and future antenna loads.		X
Confirm that there is adequate utility service to support the new equipment and ancillary equipment.		X
Modify towers or other structures, or relocate sites in the system, to ensure that they are capable of supporting proposed and future antenna loads.		X
Conduct site walks to collect pertinent information (e.g. location of telco, power, structures, etc.)	X	
Ensure that each site meets the R56 standards for space, grounding, power, HVAC, and connectivity requirements.		X
Prepare site construction drawings showing the layout of new and existing equipment.	X	
Review and approve site construction drawings.		X
Ensure that required rack space is available for installation of the new equipment.		
Deliverable: Information and permitting requirements completed at each site.		
<b>General Facility Improvements</b>		
Provide adequate HVAC, grounding, lighting, cable routing, and surge protection based upon Motorola's Standards and Guidelines for Communication Sites (R56)		X
Ensure the resolution of environmental and hazardous material issues at each site including, but not limited to, asbestos, structural integrity (tower, rooftop, water tank, etc.), and other building risks.		X
Ensure that electrical service will accommodate installation of system equipment, including isolation transformers, circuit breakers, surge protectors, and cabling.		X
Provide obstruction-free area for the cable run between the demarcation point and system equipment.		X
Provide structure penetrations (wall or roof) for transmission equipment (e.g. antennas, microwave radios, etc.).		X
Supply interior building cable trays, raceways, conduits, and wire supports.		X
Transport removed site equipment to a desired location.		X

Tasks	Motorola	EBRCSA
Deliverable: Sites meet physical requirements for equipment installation.		
<b>SYSTEM INSTALLATION</b>		
<b>Equipment Order and Manufacturing</b>		
Create equipment order and reconcile to contract.	X	
Manufacture Motorola Solutions-provided equipment necessary for system based on equipment order.	X	
Procure non-Motorola Solutions equipment necessary for the system.	X	
Deliverable: Equipment procured and ready for shipment.		
<b>System Staging</b>		
Ship all equipment needed for staging to Motorola's Customer Center for Solutions Integration (CCSi).	X	
Provide information on existing system interfaces, room layouts, or other information necessary for the assembly to meet field conditions.		X
Set up and rack the solution equipment on a site-by-site basis, as it will be configured in the field at each of the sites.	X	
Assemble required subsystems to assure system functionality.	X	
Power up, load application parameters, program, and test all staged equipment.	X	
Confirm system configuration and software compatibility with the existing system.	X	
Inventory the equipment with serial numbers and installation references.	X	
Deliverable: System staged and ready for shipment.		
<b>Equipment Shipment and Storage</b>		
Provide secure location for solution equipment.		X
Pack and ship solution equipment to the identified, or site locations.	X	
Receive solution equipment.		X
Inventory solution equipment.	X	
Deliverable: Solution equipment received and ready for installation		
<b>General Installation</b>		
Deliver solution equipment to installation location.	X	
Coordinate receipt of and inventory solution equipment with designated contact.	X	
Install all proposed fixed equipment as outlined in the System Description based upon the agreed-upon floor plans, connecting audio, control, and radio transmission cables to connect equipment to the power panels or receptacles, and audio/control	X	



Tasks	Motorola	EBRCSA
line connection points. Installation performed in accordance with R56 standards and state/local codes.		
Provide system interconnections that are not specifically outlined in the system design, including dedicated phone circuits, microwave links, or other types of connectivity.		X
Install and terminate all network cables between site routers and network demarcation points, including microwave, leased lines, and Ethernet.	X	
Ensure that Type 1 and Type 2 AC suppression is installed to protect installed equipment.		X
Connect installed equipment to the provided ground system.	X	
Label equipment, racks, and cables.	X	
Perform preliminary audit of installed equipment to ensure compliance with requirements and R56 standards.	X	
Note any required changes to the installation for inclusion in the "as-built" system documentation.	X	
Remove, transport, and dispose of old equipment.		X
Deliverable: Equipment installed.		
<b>SYSTEM OPTIMIZATION AND TESTING</b>		
<b>R56 Site Audit</b>		
Perform R56 site-installation quality-audits, verifying proper physical installation and operational configurations.	X	
Create site evaluation report to verify site meets or exceeds requirements, as defined in Motorola's R56 Standards and Guidelines for Communication Sites.	X	
Deliverable: R56 Standards and Guidelines for Communication Sites audits completed successfully.		
<b>Solution Optimization</b>		
Verify that all equipment is operating properly and that all electrical and signal levels are set accurately.	X	
Verify communication interfaces between devices for proper operation.	X	
Ensure that functionality meets manufacturers' specifications and complies with the final configuration established during design review or system staging.	X	
Deliverable: Completion of System Optimization.		
<b>Functional Acceptance Testing</b>		
Verify the operational functionality and features of the solution supplied by Motorola, as contracted.	X	
Witness the functional testing.		X
Document all issues that arise during the acceptance tests.	X	
If any major task for the system as contractually described fails during the Customer acceptance testing or beneficial use, repeat	X	



Tasks	Motorola	EBRCSA
that particular task after Motorola Solutions determines that corrective action has been taken.		
Resolve any minor task failures before Final System Acceptance.	X	
Document the results of the acceptance tests and present for review.	X	
Review and approve final acceptance test results.		X
Deliverable: Completion of functional testing and approval by Customer.		
<b>PROJECT TRANSITION</b>		
<b>Cutover</b>		
Finalize Cutover Plan.	X	X
Conduct cutover meeting with relevant personnel to address both how to mitigate technical and communication problem impacts to the users during cutover and during the general operation of the system.	X	
Notify the personnel affected by the cutover of the date and time planned for cutover.		X
Provide ongoing communication with users regarding the project and schedule.	X	X
Resolve punchlist items, documented during the Acceptance Testing phase, in order to meet all the criteria for final system acceptance.	X	
Assist Motorola with resolution of identified punchlist items by providing support, such as access to the sites, equipment and system, and approval of the resolved punchlist items.		X
Deliverable: Migration to new system completed, and punchlist items resolved.		
<b>Transition to Warranty</b>		
Review the items necessary for transitioning the project to warranty support and service.	X	
Motorola to provide services in conjunction with the proposed services.	X	
Provide a Customer Support Plan detailing the warranty support associated with the contract equipment.	X	
Participate in the Transition Service/Project Transition Certificate (PTC) process.		X
Deliverable: Service information delivered and approved by Customer		
<b>Finalize Documentation and System Acceptance</b>		
Provide manufacturer's installation material, part list and other related material to Customer upon project completion.	X	

Tasks	Motorola	EBRCSA
Provide an electronic as-built system manual on CD or other Customer preferred electronic media. The documentation will include the following: <ul style="list-style-type: none"> <li>- Site Block Diagrams.</li> <li>- Site Floor Plans.</li> <li>- Site Equipment Rack Configurations.</li> <li>- ATP Test Checklists.</li> <li>- Functional Acceptance Test Plan Test Sheets and Results.</li> <li>- Equipment Inventory List.</li> <li>- Maintenance Manuals (where applicable).</li> <li>- Technical Service Manuals (where applicable).</li> </ul> Drawings will be delivered in Adobe PDF format.	X	
Receive and approve documentation.		X
Execute Final Project Acceptance.	X	X
Deliverable: All required documents are provided and approved. Final Project Acceptance.		

## 2.2 ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for EBRCSA related to the design of the solution as well as to the project implementation:

1. All existing sites or equipment locations will have sufficient space available for the system described. Relocation or removal and/or reinstallation of any equipment to accommodate the installations are not covered and will be quoted separately.
2. All existing sites or equipment locations will have adequate electrical power and site grounding suitable to support the requirements of the system described.
3. Motorola intends to reuse the existing DC Power system at all sites. The DC power system provided by EBRCSA will have sufficient power to support the old equipment and new equipment at each of the sites during the testing and migration period.
4. Any site/location upgrades or modifications are the responsibility of EBRCSA.
5. Any tower stress analysis or tower upgrade requirements are the responsibility of EBRCSA.
6. Approved local, State, or Federal permits as may be required for the installation and operation of the proposed equipment, are the responsibility of EBRCSA.
7. Any inaccuracies in FCC data may drive additional services costs during field implementation. In addition, any other troubleshooting tasks related to frequency interference issues that are not directly attributable to Motorola are subject to additional service fees at rates define in this proposal.
8. As requested by EBRCSA, Motorola has removed the Carol Drive and Twin Peaks sites from the MW design and has not included any upgrade equipment for those sites.
9. Motorola has considered 1 future radio site in the MPLS design and has included the corresponding equipment for it.
10. The sites not included in the MPLS design will only support LMR traffic.



11. All ODU600 (outdoor RFU) will be remote-mounted to antenna and new 3ft Flextwist and new coaxial cables are proposed to replace existing coaxial cables. Assuming there is an existing conduit and passage for the Coax cable.
12. Existing antennas, centerlines and waveguide lines will be reused at most sites (with exception to those specifically mentioned in the Solution Description).
13. DC distribution panel is not more than 30 ft far from the MW equipment rack.
14. Motorola will reuse the existing Dehydrators and manifold systems, and those should be capable to support the new equipment.
15. Motorola has included one set of spares for each of the EBRCSA shops in Alameda County and Contra Costa County.
16. Demarcation point will be as follows:
  - For T1, it will be on new DS-1 circuits terminated on DSX-1 jackfield panel
  - For Ethernet, it will be on Ethernet port on the DACGE3
17. All equipment interconnections or termination points, unless specified otherwise, are estimated to be 50 feet. This project does not include any cabling between buildings, rooms, or floors, unless specifically identified in this proposal.
18. EBRCSA provided construction drawings will have sufficient details for Motorola engineering to order antenna mounting or any other related material required. Any re-engineering to provide correct mounts or material required by Motorola may increase cost to EBRCSA.
19. Motorola shall not be responsible for the condition of existing equipment or the deficiencies of non-Motorola provided labor.

## 2.3 ACCEPTANCE TEST PLAN

System Acceptance of the proposed solution will occur upon successful completion of a Functional Acceptance Test Plan (FATP), which will test the features and functions of the installed equipment and/or software in order to verify that the solution operates according to its design. This plan will validate that EBRCSA's solution will operate according to its design, and increase the efficiency and accuracy of the final installation activities.

A detailed FATP will be developed and finalized during the Design Review.

## 2.4 TRAINING

Motorola has included the following customer training for the new MW solution:

Course Title	Sessions	Duration	Location	Date	Participants
Eclipse and ProVision Training	1	5 days	TBD	TBD	10



## 2.5 PROJECT SCHEDULE

The EBRCS Backhaul Network upgrade project would require a carefully developed deployment plan, keeping in mind the importance of continuous operations of the current network. Motorola has prepared a preliminary multi-year deployment plan designed to avoid network operations challenges by taking smaller and controlled upgrade steps.

The estimated time for completion of the entire upgrade project is approximately 24-27 months from the date of Contract signature (a high level project timeline is shown on the diagram below). A more detailed project schedule version will be prepared by the Motorola's assigned Project Manager during the Detailed Design Review, and then reviewed and approved by EBRCSA.

Year	Q1	Q2	Q3	Q4
2019			Proposal Preparation/Negotiations	PO
2020	MW Upgrade Project (Field Surveys)	SUA II A2019 Release Upgrade	MW Upgrade Project (Network Design, Manufacturing and Staging)	
2021	MW Upgrade Project (Installation and Integration)			Migrate Hardware and Dispatch Data to Ethernet
	MPLS Network (Installation and Integration into MW network)			Migrate Broadcast Subsystems to Ethernet
2022	MW Upgrade Project (Closeout)	Migrate the remaining ACCESS Subsystem to Ethernet	SUA II A2021 Release Upgrade	
	MPLS Network (Closeout)			

### 2.5.1 Microwave Cutover Plan

Motorola has put special emphasis on the Microwave cutover methodology, keeping in mind the importance of continuous operations of the current network:

- The cutover will be at DS-1 and Ethernet Level starting at middle of ring and working way out with hop by hop replacement. Crews are needed at both ends of hop during the cutover to minimize the downtime.
- The cutover will be executed in different phases to allow the customer to implement the network over the project lifecycle.
- It is recommended to complete one ring at the time with the following sequence: CCCO ring, ALCO and Richmond Mini loop. The loop protection will not be available when working on each loop until each individual loop is completed with new radio replacement.
- The spur hops can be done after loops are completed.

A detailed cutover plan will be developed once the field site survey is completed (post contract award).

## **2.6 WARRANTY SERVICES**

### **2.6.1 Microwave Equipment**

Motorola will pass through to EBRCSA the Aviat standard hardware repair warranty for a period of 3 Years from the shipment date.

### **2.6.2 MPLS Equipment**

Motorola will pass through to EBRCSA the Nokia standard hardware repair warranty for a period of 1 Year from the shipment date.

### **2.6.3 Lifecycle Services**

Motorola has included in the optional proposal a quote for additional 10 years maintenance services for the proposed backhaul equipment.



SECTION 3

# PRICING

Motorola is pleased to provide the following equipment and services to EBRCSA:

## 3.1 MW UPGRADE AND MPLS IMPLEMENTATION

Description	Price (USD)
<b>Equipment</b>	
MW Equipment	\$4,266,656
MPLS Equipment	\$1,013,790
<b>Equipment Subtotal</b>	<b>\$5,280,446</b>
<i>Equipment Discount - Contract Level</i>	<i>-\$792,941</i>
<b>Equipment Total (after Contract Discount)</b>	<b>\$4,487,505</b>
<b>System Integration Services</b>	<b>\$4,570,889</b>
<b>Project Total</b>	<b>\$9,058,394</b>
<i>One Time System Discount (for Contract by December 14th, 2019)</i>	<i>-\$658,394</i>
<b>Project Total (with all Discounts)</b>	<b>\$8,400,000</b>
Estimated Tax on Equipment (9.25%)	\$384,924

## 3.2 LIFECYCLE SERVICES (OPTIONAL)

		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
MW	Warranty Plus	\$ 46,480	\$ 46,480	\$ 46,480	\$ 92,095	\$ 92,095	\$ 92,095	\$ 111,215	\$ 111,215	\$ 111,215	\$ 111,215	\$3,719,198
	Onsite Support	\$ 50,909	\$ 52,484	\$ 54,107	\$ 55,780	\$ 57,505	\$ 59,284	\$ 61,118	\$ 63,007	\$ 64,956	\$ 66,965	
	Preventative Maintenance	\$ 105,000	\$ 108,247	\$ 111,595	\$ 115,047	\$ 118,605	\$ 122,273	\$ 126,055	\$ 129,953	\$ 133,973	\$ 138,116	
	Managed Services (NOC)	\$ 155,455	\$ 100,909	\$ 100,909	\$ 100,909	\$ 100,909	\$ 100,909	\$ 100,909	\$ 100,909	\$ 100,909	\$ 100,909	
MPLS	Remote Technical Support	\$ 36,229	\$ 36,229	\$ 36,229	\$ 36,229	\$ 36,229	\$ 40,758	\$ 40,758	\$ 40,758	\$ 40,758	\$ 40,758	\$2,169,054
	Advanced Exchange	\$ 42,570	\$ 42,570	\$ 42,570	\$ 42,570	\$ 42,570	\$ 48,004	\$ 48,004	\$ 48,004	\$ 48,004	\$ 48,004	
	Software Subscription Plan	\$ 18,115	\$ 18,115	\$ 18,115	\$ 18,115	\$ 18,115	\$ 18,115	\$ 18,115	\$ 18,115	\$ 18,115	\$ 18,115	
	HW Refresh						\$1,150,100					

SECTION 4

# CONTRACTUAL DOCUMENTATION

This proposal is based upon providing the project under a Change Order to the Communications System Agreement (CSA) between EBRCSA and Motorola, dated July 7, 2009, extended on July 6, 2012, and extended again on July 6, 2017 through July 6, 2020.



will be responsible to insure the equipment as outlined in the lease

l property, sales, leasing, use, stamp, or other taxes are for the  
of the Lessee.

<u>Option One</u>	<u>Option Two</u>	<u>Option Three</u>
Three Years	Five Years	Seven Years
Annual	Annual	Annual
Arrears	Arrears	Arrears
2.61%	2.62%	2.56%
0.350859	0.216001	0.157868
82,268.04	\$1,897,550.92	\$1,386,854.59

ment due  
r after

n.

rest rate methodology is valid for all leases commenced by  
19

### **Unified structure 3, 5 and 7 year terms**

ated using a rate of interest ("Lease Rate") that is initial  
seven year (7) average life ICE Swap (the "Index Rate") a  
ical rates. The average life ICE Swap corresponds to th  
Report can be accessed at the ICE web site  
[ports/180](#). On the Commitment Date, the final Lease Ra  
x Rate for that date from the ICE Report, plus a spread  
se two numbers by .7835 to calculate the Lease Rate for th  
orm will be calculated by taking the Index Rate for that dat  
of 1.90% and multiplying the sum of those two numbers b  
be calculated by taking the Index Rate for that date from th  
nd multiplying the sum of those two numbers by .7835. Th  
the Lease.

Rates were in place at the approximate time this quote wa

of a properly executed documentation package.

qualifies as a political subdivision or agency of the State as  
in the Internal Revenue Code of 1986. The interest portion  
ase Payments shall be excludable from the Lessor's  
come pursuant to Section 103 of the Internal Revenue Code.

of a copy of the last years audited financial statements  
ent year's budget from the Lessee.

posal should not be construed as a commitment to finance.



### AVIAT 10 YEAR Microwave Upgrade Agreement - 60 HOPS:

- Existing EBRCS MW has reached “end of life”. The current MLA expires on Sept 30<sup>th</sup>, 2021. The MW system needs to be replaced and upgraded to support Ethernet technology.
- Alameda County/City of Oakland ring completed in 2021.
- Contra Costa/Vallejo ring completed in 2022.
- Migration from TDM to IP/MPLS completed in 2023.
- Equipment, Engineering & Installation of 60 Hops of Latest Technology Microwave Radios to support Ethernet/MPLS technology while also supporting legacy TDM.
- MPLS Routers and Management System at every site to support migration from TDM to IP/MPLS technology.
- New Antenna Systems for 9 Hops that are moving from narrow band 10.5 GHz to wideband 11 GHz to allow for increased capacity.
- 10 Year Warranty and 24/7/365 TAC support.
- On-site training classes included for each ring.
- Field Support & Network Engineering support for the 10-year duration.
- Staggered Annual Payments at zero interest.
- Optional services include preventative maintenance, corrective maintenance, and remote network monitoring by the Aviat NOC.

### Aviat Background:

- Aviat manufactures the Microwave Radios, Routers & Management System.
- Aviat is a local company in Milpitas, CA.
- Aviat installed the original microwave for EBRCS.
- Aviat brings local knowledge as well as employees that are just short drive away. Aviat has its interoperability laboratory in Milpitas with an abundance of spare parts.
- Aviat Microwave radios are used by majority of agencies in the Northern CA including SVRIA, PG&E, San Mateo County, Santa Clara County, City of Oakland, Contra Costa County, Monterey County, Napa County, US Geological Survey, Lawrence Livermore Labs, Golden Gate National Recreation Area, Golden Gate Bridge District, etc. which means there are plenty of spare parts and technicians in the local area that can assist in case of a disaster.
- Aviat is currently under contract for Technical Support, Preventative Maintenance & Warranty Repairs for existing system.
- Aviat has the Highest RF Power Radios in market with the most advanced features.
- DESIGNED ★ BUILT ★ SUPPORTED ★ IN THE USA

**RESOLUTION NO. 21-\_\_**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY (“EBRCSA”)**

\*\*\*\*\*

**AUTHORIZING THE CHAIR TO EXECUTE AND THE EXECUTIVE DIRECTOR TO  
IMPLEMENT CHANGE ORDER 34 WITH MOTOROLA SOLUTIONS, INC. TO ADD  
ADDITIONAL EQUIPMENT AND COST OF INSTALLATION TO CHANGE ORDER  
#33 AND PAY THE ASSOCIATED INCREASED COST ASSOCIATED WITH CHANGE  
ORDER NUMBER 34**

**WHEREAS**, pursuant to Government Code Section 6500 *et seq.* and the Joint Exercise of Powers Agreement executed by its members, the East Bay Regional Communications System Authority (the “EBRCSA”) is authorized to acquire, plan, design, finance, construct, operate and maintain a P-25 compliant communications system serving Alameda and Contra Costa Counties and individual political jurisdictions therein (the “System”); and

**WHEREAS**, the EBRCSA has contracted with Motorola Solutions, Inc. (“Motorola”) for the purchase of communications equipment, maintenance, and related services in connection with a P-25 compliant communications system serving Alameda and Contra Costa Counties and individual political jurisdictions therein (the “System”) through approval of the Communications System Agreement (“CSA”); and

**WHEREAS**, Public Safety Networks are transitioning the Land Mobile Radio (“LMR”) from TDM/T-1 circuit-based networking to Internet Protocol or “IP”- based Ethernet/MPLS networks; and

**WHEREAS**, EBRCSA’s Motorola ASTRO25 Radio network currently transports or “backhauls” its radio traffic over T-1 Circuits and was built utilizing existing T-1 circuit switched microwave communications provided by Member Agencies and a microwave purchase in 2004 via the Super Urban Area Security Initiative Grant (“Microwave System”); and, although the Microwave System has operated well, the age and the remaining life expectancy of some of its equipment is approximately 5 years; and

**WHEREAS**, EBRCSA’s LMR system is currently supported by a Motorola ten (10) year System Update Agreement II (“SUA II”) with a term ending in July 2023; and, the SUA II provides for substantial system updates and upgrades once every two years, resulting in EBRCSA’s radio system being up-to-date and optimized with current software, hardware and security; and

**WHEREAS**, no further system security or optimization upgrades can be implemented until the Ethernet/MPLS migration is complete. The most recent LMR system upgrade took place in February 2020 and the next upgrade is scheduled to take place by the first quarter of 2022; and

**WHEREAS**, the Board approved Motorola’s proposal for the Ethernet/MPLS migration, with a project total cost of \$8,575,759 via Change Order 33 (“Ethernet/MPLS Transition”) on December 4, 2020 ; and

**WHEREAS**, the Ethernet/MPLS Transition is expected to be completed in 24 to 27 months; and

**WHEREAS**, pursuant to the work authorized via Change Order Number 33, Motorola and its subcontractor Aviat Microwave have completed a detailed design review with physical inspections of all sites and determined additional paths and equipment is necessary to complete the project and has provided EBRCSA a proposal to integrate the additional sites and equipment in the amount of \$961,877.35 via Change Order 34; and

**WHEREAS**, funds are available for to cover such cost, and good cause appears therefor.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Board of Directors of the East Bay Regional Communications System Authority does hereby approve Change Order Number 34 to the System Update Agreement II with Motorola, Solutions, Inc., to integrate the additional sites and equipment into the Ethernet/MPLS Transition and authorize its Chair to execute such change order; and authorize its Executive Director to take such further action as may be necessary and appropriate to implement such change order.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 3<sup>rd</sup> day of December 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:** \_\_\_\_\_  
Caroline Soto, Secretary

**RESOLUTION NO. 21-XX**

**A RESOLUTION OF THE  
EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY**

**\*\*\*\*\***

**ADOPTING AND IMPLEMENTING AN ADJUSTMENT TO ADMINISTRATIVE  
BUDGET FOR FISCAL YEAR 2021/2022**

**WHEREAS**, on May 7, 2021, the East Bay Communications System Authority (“EBRCSA”) Board of Directors adopted the Fiscal Year 2021/2022 Administrative Budget for the EBRCSA; and

**WHEREAS**, the EBRCSA Finance Committee and Operations Committee have identified additional items requiring the establishment of a change in line item for the purchase of additional paths and equipment not included in Motorola Solutions Change Order [33] and have recommended that the EBRCSA Board of Directors so adjust the Fiscal Year 2021/2022 Administrative Budget; and

**WHEREAS**, the EBRCSA Board of Directors Finance Committee has identified an increase to the FY 2021/2022 budget; and

**WHEREAS**, the EBRCSA Board of Directors has reviewed and considered the proposed budget adjustment, has reviewed EBRCSA’s current revenues and expenses, has heard all comment thereon, and finds good cause therefor.

**NOW, THEREFORE, BE IT RESOLVED THAT** the Board of Directors of the East Bay Regional Communications System Authority does hereby adopt a budget adjustment to the Fiscal Year 2021/2022 Administrative Budget, Operating Expenses, for the EBRCSA, by increasing the Administration, Planning for the purchase of additional equipment and services per Motorola Solutions Change Order [34] Ethernet/MPLS, and authorizes the Executive Director to implement such change to the Fiscal Year 2021/2022 Administrative Budget.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 3<sup>rd</sup> day of December 3, 2021, by the following votes:

**AYES:**

**NOES:**

**ABSTENTIONS:**

**ABSENT:**

**ATTEST:** \_\_\_\_\_

Caroline Soto, Secretary





**East Bay Regional  
Communications  
System Authority**



Participating agencies include Alameda and Contra Costa Counties and the following cities and special districts: Alameda, Albany, Antioch, Berkeley, Brentwood, Clayton, Concord, Danville, Dublin, El Cerrito, Emeryville, Fremont, Hayward, Hercules, Lafayette, Livermore, Martinez, Moraga, Newark, Oakley, Pinole, Pittsburg, Pleasant Hill, Pleasanton, Richmond, San Leandro, San Pablo, San Ramon, Union City, Walnut Creek, East Bay Regional Park District, Kensington Police Community Services District, Livermore Amador Valley Transit Authority, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, California Department of Transportation, Ohlone Community College District, Contra Costa Community College District, Dublin-San Ramon Services District and University of California, Berkeley

**AGENDA ITEM NO. 9.6.**

**AGENDA STATEMENT  
BOARD OF DIRECTORS MEETING  
MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Sheriff G. Ahern, Board Chair  
East Bay Regional Communications System Authority

**SUBJECT:** Approval of 2022 Board and Committee Meeting Schedule

**RECOMMENDATIONS:**

Approve the proposed 2022 Board and Committee Meeting Schedule.

**SUMMARY/DISCUSSION:**

It is recommended that the Board of Directors review and approve the 2022 proposed meeting schedule for the Board of Directors, Finance Committee, Operations Committee, and Technical Advisory Committee Meetings.

As discussed in the staff report accompanying Item 9.1, in order to continue meeting virtually pursuant to AB 361, the Board must make and approve required findings allowing it and its subordinate Committees to do so every thirty (30) calendar days. Because the Board's Regular Meetings do not occur every 30 days, it is required to hold Special Meetings in order to consider adoption of AB 361 findings. Therefore, the proposed calendar includes Special Meetings at 30 day intervals between Regular Board Meetings in order to potentially allow it to make AB 361 findings to continue to meet virtually.

**RECOMMENDED ACTION:**

It is recommended that the Board of Directors approve the proposed 2022 Meeting Schedule.

Attachment:

Exhibit "A" – Draft 2022 Calendar

5019035.1



# **East Bay Regional Communications System Authority**



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## **2022 EBRCSA Board and Committee Meeting Schedule**

### **REGULAR MEETINGS**

#### **Board of Directors**

March 4	10:00-12:00	Assembly Room, Alameda County OES
May 6	10:00-12:00	Assembly Room, Alameda County OES
September 23	10:00-12:00	Assembly Room, Alameda County OES
December 2	10:00-12:00	Assembly Room, Alameda County OES

#### **SPECIAL MEETINGS TO CONSIDER AB 361 FINDINGS:**

December 31, 2021	10:00-10:30	Assembly Room Alameda County OES
January 28	10:00-10:30	Assembly Room Alameda County OES
February 25	10:00-10:30	Assembly Room Alameda County OES
April 22	10:00-10:30	Assembly Room Alameda County OES
June 17	10:00-10:30	Assembly Room Alameda County OES
July 15	10:00-10:30	Assembly Room Alameda County OES
August 12	10:00-10:30	Assembly Room Alameda County OES
September 9	10:00-10:30	Assembly Room Alameda County OES
October 23	10:00-10:30	Assembly Room Alameda County OES
November 4	10:00-10:30	Assembly Room Alameda County OES

**Committees:**

February 18

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

April 1

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

September 2

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

November 11

Operations Committee	10:00-11:00 Room 1013
Finance Committee	11:00-12:00 Room 1013

TAC Meetings: First Thursday of the Month 09:30-11:00 in Room 1013 (if available) or 40% side

January 6

February 3

March 3

April 7

May 5

June 2

July 7

August 4

September 1

October 6

November 3

December 1

Revised: 11/30/2021

5019945.1



# ***East Bay Regional Communications System Authority***



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**East Bay Regional  
Communications  
System Authority**



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**AGENDA ITEM NO. 9.7.**

**AGENDA STATEMENT  
BOARD OF DIRECTORS MEETING  
MEETING DATE: December 3, 2021**

**TO:** Board of Directors  
East Bay Regional Communications System Authority (EBRCSA)

**FROM:** Sheriff G. Ahern, Board Chair  
East Bay Regional Communications System Authority

**SUBJECT:** Annual Election of a Board Chair and Vice Chair as Required by the JPA Agreement and Bylaws

**RECOMMENDATIONS:**

Elect a Board Chair and Vice Chair, as required by the JPA Agreement and Bylaws.

**SUMMARY/DISCUSSION:**

The JPA Agreement and Bylaws for the Authority state that the Board Presiding officers shall be a Chair and Vice-Chair, elected annually from among its membership, to preside at meetings. In the absence of the Chair, the Board shall be presided over by the Vice-Chair. The positions of Chair and Vice-Chair will be filled by a representative from each County. If the Chair is from Alameda County, the Vice-Chair will be from Contra Costa County. If the Chair is from Contra Costa County, the Vice-Chair will be from Alameda County.

The Board of Directors will receive nominations from sitting members of the Board to fill the positions of Chair and Vice-Chair. The Board will vote on the nominations for Chair and Vice-Chair following Roberts's Rules of Order. The newly elected Chair and Vice Chair will assume their positions at the conclusion of the meeting and will continue in the positions for one year.

**RECOMMENDED ACTION:**

It is recommended that the Board of Directors elect a Board Chair and Vice Chair as required by the JPA Agreement and Bylaws, to serve a term of one year.