



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

BOARD OF DIRECTORS MEETING

NOTICE OF REGULAR MEETING

DATE: October 27, 2017

TIME: 10:00 a.m.

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

AGENDA

1. **Call to Order/Roll Call:** (Regular Session) **Time: 10:00 a.m.**

2. **Announcement of
Closed Session Topics/Adjournment to Closed Session:** **Time: 10:15 a.m.**

(Only comments concerning the agenda item listed below are allowed.)

Conference with Real Property Negotiators

Property #1: Pearl Site, a portion of Lot 122, as shown on the Map of the San Pablo Rancho filed March 1, 1894 in the office the County Recorder of Contra Costa County.
Property #2: EBMUD Carter Reservoir on Alta Mesa Drive, Moraga, Lot CC-659
Agency negotiator(s): Tom McCarthy Executive Director
Negotiating parties: East Bay Municipal Utilities District
Under negotiation: Price and terms of payment.

3. **Report out of Closed Session**

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 step to the podium and clearly state your name for the record. In accordance with State Law, no action or discussion may take place on any item not appearing on the posted agenda. If the item requires action, it will be referred to staff and/or placed on the next 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 way to the podium. 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 June 23, 2017

7. **Written Communications:** None

8. **Public Hearings:** None

9. **Action Items:**

9.1 Consider adoption of a Resolution approving Change Order #26 with Motorola Systems, Inc.

9.2 Consider adoption of a resolution for a budget change to the 2017–2018 EBRCSA Budget

9.3 Discussion of transition to Phase II, from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA)

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 Update on Expansion of Alameda County East Cell to 12 Channels and Motorola Inter Sub-System Interface ISSI 8000.

11.2 Retirement of Vice Chair T. Anderson and future election at December 1, 2017, Board Meeting.

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

Tom McCarthy
Executive Director
Dated: October 20, 2017
2877531.1



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BOARD OF DIRECTORS MEETING

REGULAR MEETING

DATE: June 23, 2017

TIME: 10:00 a.m.

PLACE: Alameda County Sheriff's Office of Emergency Services and Homeland Security
4985 Broder Blvd.
Dublin, CA 94568

MINUTES

Boardmembers Present:

G. Ahern, T. Anderson, J. Calabrigo, M. Casten, J. Catalano, J. Diaz (Alternate), T. Dupuis*, S. Haggerty, P. Mulligan, S. Muranishi, M. Rodriguez, C. Silva, E. Woo (Alternate), D. White (Alternate)

(*Non-voting Alternate at this meeting)

Boardmembers Absent:

T. Acosta, P. Cutter, C. Dutra-Vernaci, S. Landreth, M. McQuiston, P. Meyer, K. Mitchoff, S. Perkins, M. Roberts, Libby Schaaf

Staff:

T. McCarthy, C. Soto, A. Tyrvanen, Auditor-Controller's Office, Alameda County

Guests:

G. Poole, Motorola

1. **Closed Session:** (None)
2. **Call to Order/Roll Call:** 10:06 a.m.
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 24, 2017

On motion of Bm. Mulligan, seconded by Bm. Haggerty and by unanimous vote, the Board approved the minutes of the Regular Board Meeting of March 24, 2017.

7. Written Communications: None.

8. Public Hearings: None

9.1 Consider Adoption of a Resolution Approving the FY 17/18 EBRCSA Administrative Budget

Director McCarthy presented the Staff Report and advised that the budget included \$630,000 in grants. The budget had been reviewed by the Finance Committee.

Aaron Tyrvanen, Authority Auditor, advised that the Fiscal Year 2017/2018 budget included \$6.8 million in total revenues, consisting of \$5,000,000 in operating payments, \$1,200,000 in service payments; and \$630,000 in grants; there was \$3,600,000 in operating expenses, \$3,000,000 of which is maintenance. In addition to operating expenses was \$650,000 in debt service. There was \$720,000 in capital expenditures. Total budget revenues exceeded total budgeted expenses by approximately \$1,900,000.

Chair Ahern asked that Mr. Tyrvanen provide detail on what the \$3,000,000 in maintenance covered.

10:09 a.m. Bm. Casten arrived.

Mr. Tyrvanen explained the \$3,000,000 was primarily contracted maintenance with Motorola, which included service and software maintenance, service management, and communication support.

Bm. Silva stated that the Finance Committee also reviewed the 10-Year Cash Flow projection and how money was allocated to capital and debt service and what assumptions were being made.

On motion of Bm. Haggerty, seconded by Bm. Muranishi and by unanimous vote, the Boardmembers adopted Resolution No. 17-03 Adopting an Administrative Budget for Fiscal Year 2017/2018.

Bm. Anderson stated he wanted to praise Bm. Calabrigo and Bm. Silva for their foresight on the budget.

Director McCarthy explained in regard to the 10-Year Cash Flow Projection, the Authority needed to look ahead to ensure that its rates and fees were adequate to maintain the System, and keep the System moving forward. The Authority had a better picture now that it had brought on Oakland and a few other agencies, as to operating expenditures and capital coming in, and payments. A policy was adopted last year as to how much the Authority would be putting in reserves. It was to be 1-1/2 times the operating costs, into a reserve. That was in addition to the \$1,000,000 already in the reserve for the bonds. Now there needed to be more money in reserve for capital expenses in the coming years, such as moving to TDMA, due to growth. The 10 Year-Cash Flow Projection designated what the reserves would be used for.

Bm. Calabrigo stated the Authority needed to do a long-term capital replacement analysis, by looking out 10-20 years. They presently did not have a strong sense of what those replacement costs would be, but they would have a better sense by studying the numbers. The Authority would be in better position in a year.

Bm. Rodriguez asked what was the maturity date of the bonds, A and B.

Director McCarthy stated the maturity date was June 2027.

Bm. Silva stated in the 10-Year Cash Flow Projection, the bonds would be paid off in the last year, 2027. This projection reflected a reasonable growth based on current agencies, not on added agencies. A small amount of operating cost increases, per the policy, the Authority would transfer a certain amount of money in to capital reserve. The Auditor was also asked to put in an assumption on how much would be spent every year on capital infrastructure. There is also another key assumption, that there will be no future grant monies because you cannot count on them. This was a very conservative approach.

Chair Ahern stated he agreed it was a very conservative approach, leaving the Authority with a reserve balance in FY 2026-27.

Bm, Anderson stated the Finance Committee also discussed the need for differences of the non-public safety customers of the System. That will need to be discussed soon.

Bm. Rodriguez asked if there was a timeline for the capital replacement report.

Director McCarthy stated he would be working with Alameda County to do a bid process soon. There would be a need to do analysis of towers and the possibility of more than one individual or company helping the Authority with this. In looking toward the future, the Authority had a 10-year service update agreement with Motorola, so infrastructure updates, software, equipment, engineering was already calculated into the budget every year.

9.2 Consider Adoption of a Resolution Approving a One-Year Renewal for the Communications System Agreement with Motorola Solutions Inc. for a System Manager and Technicians

Director McCarthy presented the Staff Report and advised that the System was very complicated and keeping up with the evolving technology was difficult. Having this service agreement works out very well. With any problems, the Director calls Motorola and they bring in the amount of people needed. It is imperative to renew the contract.

On motion of Bm. Calabrigo, seconded by Bm. Silva and by unanimous vote, the Board adopted Resolution No. 17-04 Authorizing the EBRCSA Chair to Execute, and the Executive Director to Implement, a Services Agreement with Motorola Solutions, Inc. for Installation, Maintenance, Support and Training Services for the EBRCSA System, for a one-year term at a price of \$248,258.84 for Fiscal Year 2017/2018.

9.3 Consider Adoption a Resolution to Approve Expansion of the Alameda County East Cell to 12 Channels

Director McCarthy presented the Staff Report and advised this expansion would allow more radio traffic. The Tri-Valley area had been having “busies” when other agencies come out to Santa Rita Jail. This is to allow the Expansion of the East Cell by two channels. When the System moves to TDMA, this will mean double the capacity. There is growth still going on in the Tri-Valley and this allows for more communication in the Tri-Valley. The cost of the project is \$355,583, there is \$350,000 of grant funding for this item, and the difference of \$5,583, is in budget. This item had been presented to both the Operations and Finance Committees. It will be paid out of the Capital fund, and then seek reimbursement.

On motion of Bm. Silva, seconded by Bm. Rodriguez and by unanimous vote, the Board adopted Resolution No. 17-05 Authorizing Expansion of the Alameda County East Cell and Authorizing the EBRCSA Chair to Execute, and the Executive Director to Implement, a Services Agreement with Motorola Solutions, Inc. for the Purchase and Installation of Same for the EBRCSA System, at a cost of not-to-exceed \$355,583.00.

9.4 Consider Adoption of a Resolution to Purchase a Motorola Inter Sub-System Interface ISSI 8000

Director McCarthy presented the Staff Report and advised that when Oakland came on the System, the Authority had to come up with a method for the Oakland Police and Fire Departments to connect to, and communicate with firefighters when they went underground. This also applies to Contra Costa County where BART goes underground. Every part of the System had a redundant piece of equipment. BART is not on a Motorola system, it is on a Harris system. The System has a control station at Walnut Creek to allow firefighters, when underground, to connect not only to BART, but also to their dispatch center. To be redundant, the Authority would like to purchase an ISSA. The ISSA would be the primary means of communication between the two. This allows to automatically change the channel, seamlessly for firefighters. The control stations

would become the Systems redundancy, backup system. The full cost of the project was \$349,000; the Authority received \$276,000 from a UASI grant, the remaining \$72,119 would come from the Capital Fund. System Agencies are supportive of having a redundant system.

Bm. Haggerty asked if the grant had been received.

Director McCarthy stated yes, it had.

On motion of Bm. Haggerty, seconded by Bm. Silva and by unanimous vote, the Board adopted Resolution No. 17-06 Authorizing the Purchase and Installation of an Inter Sub-System Interface for the EBRCSA System and Authorizing the EBRCSA Chair to Execute, and the Executive Director to Implement, a Services Agreement with Motorola Solutions, Inc. for the Same, at a cost not-to-exceed \$349,000.00.

9.5 Consider Adoption of a Resolution to Purchase Licenses Necessary for EBRCSA Subscriber Radios from Motorola Solutions Inc.

Director McCarthy presented the Staff Report and advised that the Authority was in need of licenses for Motorola software because of added radios. There were approx. 16,000 current licenses, but a total of 18,350 were needed. These licenses were critical because the next update of the radio system, a license number was needed for each radio. If the Authority did not comply, the FCC could fine the Authority for not having an adequate number of licenses.

On motion of Bm. Silva, seconded by Bm. White and by unanimous vote, the Board adopted Resolution No. 17-07 Authorizing the Purchase of 2,500 Radio Licenses for the EBRCSA System and Authorizing the EBRCSA Chair to Execute, and the Executive Director to Implement, an Agreement with Motorola Solutions, Inc. for the Same, at a total cost of \$20,695.50.

Chair Ahern stated for anyone wanting to come on the System, they would be paying the license fee.

Director McCarthy stated that was correct.

10. Committee Updates:

10.1 Receive Informational Report on Recent Finance Committee Activities

The future member pricing policy would be discussed, safety vs. non-public safety members.

10.2 Receive Informational Report on Recent Operations Committee Activities

The Committee had not had a quorum, so members were encouraged to attend.

11. Reports:

11.1 Update on East Bay Municipal Utilities District Lease

Director McCarthy stated he had met with East Bay Municipal Utility District (EBMUD) General Manager Alex Coate, Matt Elawady, Real Estate Manager and Sherry Hong, Customer Service Outreach Manager to discuss leasing of EBMUD property by the Authority. Mr. Coate was open to discussions as to cost. Mr. Elawady wanted to call the site a telecommunication site. Director McCarthy informed him they were not telecommunication sites, they were radio sites. There was a difference. They discussed purchasing the property at the Seneca site. They do not want to sell the site as they would like to maintain control of it. Mr. Coate would like to move the discussion along. Three questions were brought up when Bms. Andersen and Haggerty met with Mr. Coate. One was exchange in kind: they let us use the sites, and the Authority lets them on the System, at little or no cost. Legally, the Authority could do that, but then the Authority would have to revisit all agencies that provided sites to the Authority and offer the same kind of deal. They told EBMUD the Authority did not want to do that. They discussed lowering the cost. Mr. Coate stated he would discuss that but he wanted a point person to discuss that with; he did not want a seven-person committee. They discussed future legislation where cities give up their telephone poles or other locations for private cellular networks which would undermine the sites they were discussing. Yesterday evening they sent the Director a letter to be forwarded to the full Board concerning those discussions. The original letter from EBRCSA and the subsequent letter from EBMUD would be sent out later this afternoon to the full Board. The Director would like to schedule a meeting with the Committees to discuss this or put together a smaller committee to develop recommendations for communications with EBMUD.

Supervisor Haggerty asked if the sites could be moved.

Director McCarthy stated it would be very costly due to the topography. You would have to build a new site and then move. The sites are currently in strategic locations. Moving the Seneca site could require two Seneca sites to be built. Moving the Pearl site, would require another site. In Moraga, moving Alta Mesa could require two sites for coverage purposes

Chair Ahern stated the Seneca site provided coverage from the Oakland Zoo, to 66th Avenue, to 98th Avenue, up to Golf Links Road. It was a problematic site to begin with. He did not know if there was a comparable site.

Supervisor Haggerty stated there was no quid pro quo. This was political, and the Authority needed to get the right elected officials together, and have them sign a letter saying, we work with you and you need to work with us. It was not fair to allow EBMUD to hold the Authority hostage.

Director McCarthy stated he had that conversation with EBMUD that this was a public safety radio network. The original deal was they wanted to come on the System and in

the exchange, that deal was made. Then Mr. Coates said he was not sure if they wanted to come on the System, or should come on the System. It would take several years to move the sites.

Bm. Silva stated she was the Chair of the Contra Costa Mayors Conference and she could ask them to sign a letter. She had contacted State Senator Glaser's office. Currently, before the State Legislature is a bill that would require counties and cities to give up public right of way sites for commercial telecommunications industry. That legislation expanded yesterday, the telecommunications industry wanted those site for little to no cost. She went to Glaser's office and had spoken to his Chief of Staff. The State Bill was SB-649.

Director McCarthy stated this was problematic for the Authority in the sense that Verizon has already approached the City of Oakland asking for permission to build a broadband network throughout the City using all its telephone poles, and other equipment. Stephan Kaplan, Oakland's radio manager, referred them to Director McCarthy, but he had not heard from them. This buildout was from a 700 megahertz radio frequency, the System operated at 700 megahertz, so if the frequencies were too close to the System's radio structure, it could cause problems.

Bm. Calabrigo stated cities were opposed to this legislation.

Director McCarthy asked if other Boardmembers would be willing to discuss this with him. There needed to be a firm line in the letter to EBMUD, that this was what they were willing, or not, willing to do.

Chair Ahern asked of Executive Director McCarthy could draft a letter for Supervisor Haggerty's review, and any other member that wanted to review it.

Supervisory Haggerty stated the Director should attend the Contra Costa Mayor's Conference, and the Alameda County Mayor's Conference and explain the situation and ask them to sign the letter, also.

Bm. Anderson asked if these sites had a shelf life if the Authority did not pay the rent.

Director McCarthy stated they had not been paying rent. As long as they were in negotiations with EBMUD, he did not believe EBMUD was going to do anything because they did not want to get a court order served on them.

12. **Board Comments:** None.

13. **Next Action Steps:**

Director McCarthy stated he would get on the agendas for the two Mayors Conferences meetings, and would draft a letter to EBMUD, and send it to the Boardmembers for review.

14. **Adjournment:** 10:55

With no further business before the Board, the meeting was adjourned at 10:55 a.m.



**East Bay Regional
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AGENDA ITEM 9.1

**AGENDA STATEMENT
BOARD OF DIRECTORS MEETING
MEETING DATE: October 27, 2017**

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

FROM: Thomas McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Consider approval of an increase in Scope and Cost of the System Upgrade Agreement (SUA II) with Motorola Solutions, Inc. and additional storage of 12 terabyte to the Nice Logging System.

RECOMMENDATIONS:

Adopt a Resolution to approve an increase in Scope and Cost of the System Upgrade (SUA II) with Motorola Solutions, Inc. and the addition of 12 terabyte of storage to the Nice Logging System. Authorize the Chair to sign the contract and such related documents as may be necessary and the Executive Director to implement the Resolution.

SUMMARY/DISCUSSION:

Representatives from Alameda and Contra Costa Counties and EBRCSA staff have been working with Motorola solutions to identify the equipment which has been purchased over the past two years to determine both a maintenance/service plan, as well as a software lifecycle technology refresh for the EBRCSA system. The equipment is no longer under warranty.

The SUA II agreement is different in that it addresses technology refresh which impacts the version of the system software the EBRCSA system is operating and the associated hardware that is impacted by the software upgrade. The Motorola ASTRO 25 technology is an IP based

infrastructure which combines third party software and hardware and with Motorola proprietary software and hardware, in comparison to systems of the past. The SUA II provides a software upgrade in either year 1(one) or year 2 (two) of the coverage period, and the replacement of hardware that must be upgraded for the software release to work.

The SUA II system software releases cover base stations, site controllers, comparators, routers, LAN switches, servers, dispatch consoles, NICE logging equipment, network management terminals, Network Fault Management (NFM) products, network security devices such as firewalls, and intrusion detection sensors, and associated peripheral infrastructure software. The SUA II also provides for hardware replacement for system components that must be replaced as a result of the software upgrade; this includes servers, PC workstations, routers and LAN switches. Board level replacement of repeater site equipment, and dispatch consoles are included for replacement, as well.

Change Order #26 will add the following to the existing SUA II:

- Oakland Fire 14 positions
- Oakland P.D. 14 positions
- Piedmont 2 positions
- Oakland Housing Authority 3 positions
- Brentwood 4 positions
- Antioch 6 positions
- San Ramon Fire Add 2 positions
- Contra Costa County Fire Dispatch 3 positions
- City of Livermore Police Department Dispatch 1 position
- East Bay Regional Parks District Police Dispatch 1 position
- ALCO East 2-channel expansion 4 sites
- ALCO NW 2-channel expansion 4 sites
- Co-Co-Co East 3-channel expansion 3 sites
- Crane Ridge ASR 2-channel expansion
- ISSI 8000

Motorola provides options for pricing based on the length of the commitment to the SUA II program. Three options were proposed: a year-to-year pricing, a 6-year option, and a 10-year option. EBRCSA selected the 10-year option. The pricing is developed by identifying all the system components that require upgrading to develop the base price, and then a discount is applied based on the term of the agreement (see Appendix "A" SUA II Pricing).

Motorola has committed the SUA II through 2022 and this will add the additional equipment to the existing agreement. The value of this agreement will be increased by \$582,904 through 2022, with an annual cost outlined in Appendix "A"

EBRCSA has a NICE Logging system which was installed when the system was built. The Logger is redundant, however, we have been having problems with the Logger due to the number of channels which we record, and the period of time for which the recordings must be retained for. We have been working to prevent overloading logger and optimize its capabilities. The sheer

volume of recordings has created numerous problems which can only be addressed by adding an additional NICE Storage Center with 12 terabyte (TB) of memory. In addition, we only have one technician who can work on the logger, and when he is unavailable, we cannot address any problems without hiring a technician from NICE.

Motorola has put together a two-day training class which can be held here at the Master Site for 6 (six) technicians. We have new technicians who have been hired by Alameda County and others who have never received any training on the NICE logging system. The two-day class will give them basic skills to work on the system and allow them to work with the senior technician to learn more about the system.

FISCAL IMPACT:

The finding of Change Order#26 will require a Budget Change and will be an Operating Expense added to the maintenance portion of the budget.

The pricing for the increase to the SUA II is as follows:

SUA II	2018	2019	2020	2021	2022	Total
Current Price	\$836,483	\$841,778	\$847,234	\$852,850	\$858,627	\$8,337,794
Price Increase	\$101,962	\$119,849	\$120,102	\$120,362	\$120,629	\$582,904
New Total	\$938,446	\$961,627	\$967,335	\$973,212	\$979,256	\$8,920,698

The NICE 12 TB upgrade to the Master Site is a onetime charge of \$82,645.00, and this includes the following; equipment, system integration, and NICE Inform Training. We have adequate funds to pay for the increase to the SUA II and NICE upgrade and Training in the 2017/2018 budget, and this will not require an increase to the Operating Payment made by subscribers.

COMMITTEE RECOMENDATIONS:

The Finance Committee has reviewed these projects and recommended that the Executive Director present this to the full Board of Directors with a recommendation by the Finance Committee to proceed with the purchase and installation of the ALCO East Cell Expansion.

The Operations Committee did not have quorum, no recommendation could be made.

RECOMMENDED ACTION:

It is recommended that your Board of Directors of the East Bay Regional Communications System Authority does hereby (1) approve Change Order #26 to increase the Scope and Cost of the SUA II; and to increase the NICE Storage by 12 terabytes, to include training for technicians; (2) authorize its Chair to execute such change order; and (3) authorize its Executive Director to take such further action as may be necessary and appropriate to implement such change order.

Attachment "A"

Attachment "B"
Attachment "C"

RESOLUTION NO. 17-__

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

**RESOLUTION AUTHORIZING THE CHAIR TO EXECUTE AND THE
EXECUTIVE DIRECTOR TO IMPLEMENT A CONTRACT CHANGE ORDER
WITH MOTOROLA SOLUTIONS, INC. REGARDING THE SYSTEM
UPGRADE II AND THE NICE LOGGING SYSTEM**

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 Executive Director has identified a need to purchase additional equipment for the System as part of the System Upgrade II (“SUA II”) at a price increase of \$101,962 in Fiscal Year 2017/2018 and other increases, as specified in the accompanying Agenda Statement through 2022, which Agenda Statement is incorporated by reference herein; and the addition of a NICE Storage Center with 12 terabytes of memory, at a one-time charge of \$82,645; and

WHEREAS, the Finance Committee has reviewed, and recommends, these project increases for the EBRCSA Board’s consideration; and

WHEREAS, funds are available for budget adjustments 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 (1) approve Change Order #26 to increase the Scope and Cost of the SUA II; and to increase the NICE Storage by 12 terabytes, to include training for technicians; (2) authorize its Chair to execute such change order; and (3) 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 27th day of October, 2017, by the following votes:

AYES:

NOES:

ABSTENTIONS:

ABSENT:

ATTEST: _____

Caroline Soto, Secretary

2877956.1

**Appendix A –
Pricing Schedule**

Original SUAll Pricing	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Upgrade	To 7.13		X.XX		X.XX		X.XX		X.XX		
Price per Year	\$898,290	\$903,420	\$912,845	\$918,194	\$923,720	\$929,426	\$935,309	\$941,371	\$947,611	\$954,030	\$9,264,216
10 year Commitment Applied Discount	-\$89,829	-\$90,342	-\$91,285	-\$91,819	-\$92,372	-\$92,943	-\$93,531	-\$94,137	-\$94,761	-\$95,403	-\$926,422
10 year Commitment Price	\$808,461	\$813,078	\$821,561	\$826,375	\$831,348	\$836,483	\$841,778	\$847,234	\$852,850	\$858,627	\$8,337,794
System Expansion SUAll Pricing											
Price per Year						\$113,292	\$133,166	\$133,446	\$133,735	\$134,032	\$647,671
10 year Commitment Applied Discount						-\$11,329	-\$13,317	-\$13,345	-\$13,374	-\$13,403	-\$64,767
System Expansion SUAll Price						\$101,962	\$119,849	\$120,102	\$120,362	\$120,629	\$582,904
New Grand Total	\$808,461	\$813,078	\$821,561	\$826,375	\$831,348	\$938,446	\$961,627	\$967,335	\$973,212	\$979,256	\$8,920,699

Change Order No. 26

Date: 10/06/17

Project Name: EBRCS P25 Project

Customer Name: East Bay Regional Communications System Authority
(EBRCSA)

Customer Project Mgr: Tom McCarthy, Executive Director

The purpose of this Change Order is to: (highlight the key reasons for this Change Order)

Add:

SUAll services to cover the system expansion scope implemented since the original SUAll was signed in 2013.

Scope includes:

50 MCC7500 ops across 6 new dispatch centers and 4 existing dispatch center

Oakland Fire (13 ops+1 spare = 14 ops)

Oakland P.D. (14 ops)

Piedmont (2 ops)

Oakland Housing Authority (3 ops)

Brentwood (4 ops)

Antioch (6 ops)

San Ramon Fire Add (2 ops)

Contra Costa County Fire Dispatch (3 ops)

City of Livermore Police Department Dispatch (1 op)

East Bay Regional Parks District Police Dispatch (1 op)

ALCO East 2-channel expansion (4 sites)

ALCO NW 2-channel expansion (4 sites)

CoCo Co East 3-channel expansion (3 sites)

Crane Ridge ASR 2-channel expansion

ISSI 8000 (to be implemented in 2018)

Total: \$582,904.00 (Updated SUAll Pricing Table attached in Appendix C)

Contract # 09-12030/BKP
Contract Date: 7/7/09

In accordance with the terms and conditions of the contract identified above between EBRCSA and Motorola Solutions, Inc., the following changes are approved:

Contract Price Adjustments

Original Contract Value:	\$ 414,344.78
Previous Change Order amounts for Change Order numbers <input style="width: 40px; text-align: center;" type="text" value="1"/> through <input style="width: 40px; text-align: center;" type="text" value="25"/>	\$ 37,958,781.09
This Change Order:	\$ 582,904.00
New Contract Value:	\$ 38,541,685.09

Completion Date Adjustments

Original Completion Date:	3/30/10
Current Completion Date prior to this Change Order:	12/30/18
New Completion Date:	06/30/22

Changes in Equipment: <i>(additions, deletions or modifications)</i>
None.

Changes in Services: <i>(additions, deletions or modifications)</i>
The same SUAll services now apply to the system expansion listed in the description. A new System Upgrade II Statement of Work Appendix B is attached and supersedes the previous Appendix B.

Schedule Changes: <i>(describe change or N/A)</i>
The SUAll will still go through June of 2022.

Pricing Changes: <i>(describe change or N/A)</i>
The existing SUAll pricing schedule is replaced in its entirety by the new pricing summary table attached as Appendix C to this change order.

Customer Responsibilities: <i>(describe change or N/A)</i>
Approve Change Order and Issue PO

Payment Schedule for this Change Order:
(describe new payment terms applicable to this change order)

The existing SUAll pricing schedule is replaced in its entirety by the new pricing summary table attached as Appendix C to this change order.

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: _____
Printed Name: _____
Title: _____
Date: _____

By: _____
Printed Name: Gregory J. Ahern
Title: EBRCSA Board Chair
Date: _____

Reviewed by: _____ Date: _____
Motorola Solutions Project Manager

Appendix B - System Pricing Configuration

This configuration is to be reviewed annually from the contract effective date. Any change in system configuration may require an ASTRO 25 SUA II price adjustment.

Core	2018 - 2022
Master Site Configuration	M3
Zones in Operation (Including DSR and Dark Master Sites)	1
Number of Network Management Clients	4
Number of Firewalls	2
ISSI	1
RF System	
Voice RF Sites & RF Simulcast Sites (including Prime Sites)	39
GTR 8000 Repeaters/Stations	401
HPD RF Sites	0
HPD Stations	0
Dispatch Console System	
Dispatch Sites	30
Gold Elite Operator Positions	0
MCC 7500 Operator Positions (GPIOM)	0
MCC 7500 Operator Positions (VPM)	208
Conventional Channel Gateways (CCGW)	98
Logging System	
Number of AIS Servers	2
Number of Voice Logging Recorder	2
Number of Logging Replay Clients	2
Network Management and MOSCAD NFM	
MOSCAD NFM Systems	0
MOSCAD NFM RTUs	0
MOSCAD NFM Clients	0
Fire Station Alerting (FSA)	
FSA Systems	0
FSA RTUs	0
FSA Clients	0
Subscriber Radios	
Voice Subscribers	16,000
HPD Subscribers	0

Appendix C – Pricing Schedule

Original SUAll Pricing	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
Upgrade	To 7.13		X.XX		X.XX		X.XX		X.XX		
Price per Year	\$898,290	\$903,420	\$912,845	\$918,194	\$923,720	\$929,426	\$935,309	\$941,371	\$947,611	\$954,030	\$9,264,216
10 year Commitment Applied Discount	-\$89,829	-\$90,342	-\$91,285	-\$91,819	-\$92,372	-\$92,943	-\$93,531	-\$94,137	-\$94,761	-\$95,403	-\$926,422
10 year Commitment Price	\$808,461	\$813,078	\$821,561	\$826,375	\$831,348	\$836,483	\$841,778	\$847,234	\$852,850	\$858,627	\$8,337,794
System Expansion SUAll Pricing											
Price per Year						\$113,292	\$133,166	\$133,446	\$133,735	\$134,032	\$647,671
10 year Commitment Applied Discount						-\$11,329	-\$13,317	-\$13,345	-\$13,374	-\$13,403	-\$64,767
System Expansion SUAll Price						\$101,962	\$119,849	\$120,102	\$120,362	\$120,629	\$582,904
New Grand Total	\$808,461	\$813,078	\$821,561	\$826,375	\$831,348	\$938,446	\$961,627	\$967,335	\$973,212	\$979,256	\$8,920,699

ADDITIONAL NICE STORAGE CENTER

FIRM OFFER



The design, technical, pricing, and other information ("Information") furnished with this submission is proprietary information of Motorola Solutions, Inc. ("Motorola") 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.

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September 1, 2017

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

Re: Expansion of NICE Inform Logging System

Dear Mr. McCarthy

We are pleased to provide you with this firm-fixed Proposal to improve the drive performance of the NICE Inform Logging System by implementing a 2nd Storage Center to the existing logging system at the EBRCSA master site. The proposal includes adding 12TB storage server, Storage Center Software application and optional NICE training.

Once again, the Motorola project team has taken great care to propose a solution that will meet your needs and provide unsurpassed value. To best meet EBRCSA's functional and operational specifications, Motorola's solution includes a combination of hardware, software, and services specified in the Proposal.

As you know, under Section 3.4 of the Communications System Agreement (CSA), dated July, 7, 2009, and extended July 6, 2017, between EBRCSA and Motorola (the "CSA"), 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 that we have prepared for you.

Motorola will be pleased to address any questions you may have regarding this proposal. Please direct any questions to your Motorola Senior Account Manager, Gordon Poole at (408) 306-5622. This proposal shall remain valid until October 26, 2017. Motorola appreciates your continued confidence in our company, products, and services.

We look forward to continuing our relationship and implementing this project with EBRCSA

Sincerely,

Motorola Solutions, Inc.



Michael De Benedetti
Area Sales Manager, Northern California

DESCRIPTION

1.1 LOGGING SOLUTION OVERVIEW

In response to the East Bay Regional Communications System Authority's (EBRCSA) request to improve drive performance of their existing NICE logging solution, Motorola has prepared this proposal. This proposal includes the necessary hardware, software, and services to implement a 2nd Storage Center to the existing EBRCS logging system.

In addition, this proposal includes optional NICE Inform Training. This training would be good refresher of the user interface and functionality.

1.2 ADDITIONAL STORAGE CENTER COMPONENTS

Our proposed 2nd Storage Center for EBRCS includes the following summary of equipment:

Dublin Master Site Location

- One (1) Storage Center Server with 12TB of RAID 1 disk space
- One (1) Storage Center Software Application

STATEMENT OF WORK

2.1 MOTOROLA RESPONSIBILITIES

Motorola's responsibilities to add a 2nd NICE Storage Center to the existing East Bay Regional Communications System Authority (EBRCSA) Logging System are the following:

- Conduct a project kick-off meeting with EBRCSA to review project description and finalize the project implementation plan.
- Finalize the Site Drawing, Acceptance Test Plan, and Project Schedule.
- Place the order for new Motorola-provided equipment.
- Ship equipment to the EBRCSA Dublin location.
- Inventory Motorola-provided equipment.
- Coordinate the activities of all Motorola subcontractors under this contract.
- Administer safe work procedures for installation.
- Deploy the additional Storage Center Server
 - Install additional Storage Center server into existing rack-space.
 - Load Storage Center software application onto the new server.
 - Configure the new Storage Center.
 - Adjust the archive scripts on the existing Storage Center to attempt to balance the load.
- Perform functional Acceptance Test Plan.
 - If any test fails, repeat that particular test after Motorola determines that corrective action has been taken.
 - Document all issues that arise during the acceptance testing.
 - Document the results of the acceptance tests and present to EBRCSA for review.
- OPTIONAL: Perform NICE Inform Training, if purchased.
- Resolve any punch list items before Final System Acceptance.
- Provide site documentation (only those documents impacted), including drawings (Tower Elevation drawing and/or RF Antenna Interconnect drawing).
- Provide the Final Acceptance certificate to EBRCSA.

2.2 EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY RESPONSIBILITIES

East Bay Regional Communications System Authority (EBRCSA) general responsibilities include the following:

- Provide an EBRCSA single point of contact with signature authority (for signing of project milestones) for the duration of the project.

- Participate in the project kick-off meeting to finalize the project implementation plan.
- Obtain all licensing, site access, and permitting required for project implementation.
- Provide a dedicated delivery point, such as a warehouse, for receipt, inventory and storage of equipment prior to delivery to the site.
- Coordinate the activities of all KCM's vendors or other contractors.
- Provide sufficient rack space for the new equipment.
- Provide adequate electrical power and site grounding points suitable to support the requirements of the new equipment.
- Provide any site/location upgrades or modifications, if required.
- Provide any required system interconnections not specifically outlined here.
- Witness the functional Acceptance Testing.
- OPTIONAL: Attend the NICE Inform Training course, if purchased.
- Receive the updated site documentation.
- Sign off on Final Acceptance

2.3 ASSUMPTIONS

Motorola has made several assumptions in preparing this proposal for EBRCSA, which are noted below. Motorola will need to verify all assumptions or seek alternate solutions in the case of invalid assumptions. Alternate solutions required may impact the work effort and/or schedule constituting a change order.

- Prevailing Wage is not required.
- There is no performance bond included.
- No spares are required.
- Motorola work will be performed during non-holiday Monday – Friday during normal business hours, 8:00 am – 5:00 pm.
- Motorola is not responsible for interference caused or received by the Motorola provided equipment except for interference that is directly caused by the Motorola provided transmitter(s) to the Motorola provided receiver(s). Should the Customer's system experience interference, Motorola can be contracted to investigate the source and recommend solutions to mitigate the issue.

2.4 CHANGE ORDER PROCESS

Either Party may request changes within the general scope of this Agreement. If a requested change causes an increase or decrease in the cost or time required to perform this Agreement, 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.



TRAINING

3.1 NICE INFORM

Motorola has included pricing for the following NICE training course:

- Inform – 2 days, instructor-led, held in the field, up to 6 participants

This course can be purchased as part of this proposal.

3.2 COURSE DESCRIPTION

The course description is included on the following pages.



SERVICES

4.1 WARRANTY

NICE Logging Recorder Gold Lite Warranty

On Motorola's behalf, NICE Systems, Inc. will provide customized support services during the warranty period on the proposed NICE Logging hardware. Warranty support services will be enhanced to NICE's Gold Lite Level of support, providing 24x7 Phone/Remote Support and 8x5 On-Site Support services. These Gold Lite Level support services are available for purchase post-warranty. The Gold Lite level of NICE support services is outlined in Table 3-1.

Table 3-1: Gold Lite Level

NICE Gold Lite Level	
Support Coverage	Phone/Remote Support: Twenty-four (24) hours, seven (7) days per week (24x7) On-Site Support: Eight (8) hours, five (5) days per week (8x5)
Call Back Response Time	Sixty (60) minutes after receipt of call from Motorola
On-Site Response Time for Priority 1 Service Issues	Six (6) hours

4.2 LIFECYCLE SERVICES

The existing NICE Logging system is a part of the EBRCSA SUAII Lifecycle Plan. Motorola can include pricing to add this additional hardware to the SUAII for the anticipated number of years remaining. However, we have not included this pricing in this proposal at this time.



PRICING

5.1 PRICING SUMMARY

Pricing for the EBRCSA 2nd NICE Storage Center Server includes the hardware and software components in Section 1.2, and the services listed in the Statement of Work, Section 2.

Description	Estimated Price
2 nd Storage Center Equipment	\$37,584
Equipment Discount	(\$3,758)
Equipment Subtotal	\$33,826
Estimated Sales Tax (9.25% on Equipment)	\$3,129
<i>Equipment Subtotal with Estimated Sales Tax</i>	\$36,955
Systems Integration	\$42,521
Systems Integration Discount	(\$5,402)
<i>Systems Integration Subtotal</i>	\$37,119
Grand Total (without Optional Training)	\$74,074
Optional NICE Inform Training	\$8,571
Grand Total with Optional Training	\$82,645

5.2 PAYMENT MILESTONES

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.

- 100% of the Equipment Price for upon shipment of equipment
- 100% of the Services Price upon completion of services (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.



**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
MEETING DATE: October 27, 2017**

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

FROM: Tom McCarthy, Executive Director
East Bay Regional Communications System Authority

SUBJECT: Impact of SUA II and NICE Logger expansion to EBRCSA Budget

RECOMMENDATION:

Adopt a resolution to approve the increase in the SUA II for the future fiscal years through 2022 Administrative Budget. Utilize existing funding in the FY 2017/2018 budget identified for NICE Logger updates to pay for this NICE Logger expansion and training.

SUMMARY/DISCUSSION:

The East Bay Regional Communications System Authority (“EBRCSA”) operates on an annual budget which was approved by the Board of Directors for FY 2017/2018. The Finance Committee and the Operations Committee had identified the need for the following item to be funded for FY 2017/2018. I have spoken with Gordon Poole, Motorola Solutions, Inc. and clarified the increase to the SUA II will not take effect until July 1, 2018, thus this will not require a Budget Change to the FY 2017/2018 Administrative Budget. The increase to the 2018/2019 budget is projected to be covered by greater than budgeted revenues for FY 2018/2019.

The FY 2017/2018 Budget has adequate funding identified to pay for the expansion to the NICE Logger system and does not require a budget change.

FISCAL IMPACT:

The SUA II will not have a fiscal impact to the EBRCSA FY 2017/2018 Administrative Budget. The SUA II will be included in the funding of the FY 2018/2019 budget and we anticipate adequate funding to cover the increase. We have adequate funding to pay for the NICE Logger expansion and training in the FY 2017/2018 Administrative Budget.

COMMITTEE RECOMMENDATION:

The Finance Committee has reviewed this project and recommended that the Executive Director present this to the full Board of Directors with a recommendation by the Finance Committee to proceed with the increase to the SUA II and NICE Logger expansion and Training.

The Operations Committee did not have quorum, no recommendation could be made.

RECOMMENDED ACTION:

It is recommended that the Board of Directors of the East Bay Regional Communications System Authority ensure that the increased cost of the SUA II be included in future EBRCSA Administrative Budgets through the FY 2022 for the EBRCSA by: (1) increasing the SUA II budgeted amount by \$582,904 through August 2022, and (2) utilizing \$82,645, of the budgeted \$200,000 NICE Logger line item to purchase the 12 TB expansion and training. The Board hereby authorizes the Chair to direct the Executive Director to implement such changes.

RESOLUTION NO. 17-__

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

**RESOLUTION ADOPTING AND IMPLEMENTING ADJUSTMENTS TO
ADMINISTRATIVE BUDGET FOR FISCAL YEAR 2017/2018**

WHEREAS, on June 23, 2017, the East Bay Communications System Authority (“EBRCSA”) Board of Directors adopted the Fiscal Year 2017/2018 Administrative Budget for the EBRCSA; and

WHEREAS, the EBRCSA Finance Committee has identified additional items requiring increases for the System Upgrade Agreement (“SUA IP”) and the NICE Logger, as further described in the accompanying Agenda Statement incorporated herein by reference, and has recommended that the EBRCSA Board of Directors so adjust the Fiscal Year 2017/2018 Administrative Budget; and

WHEREAS, the EBRCSA Board of Directors has reviewed and considered the proposed budget adjustments, has reviewed EBRCSA’s current revenues and expenses, has confirmed that funds are available for such purposes, 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 budget adjustments to the Fiscal Year 2017/2018 Administrative Budget for the EBRCSA by: (1) increasing the SUA II budgeted amount by a total of \$582,904.00 through FY 2022, and (2) utilizing \$82,645, of the budgeted \$200,000 NICE Logger line item to purchase the 12 TB expansion, and hereby authorizes the Executive Director to implement such changes to the Fiscal Year 2017/2018 Administrative Budget.

On motion of xx, seconded by xx, the foregoing Resolution was passed and adopted this 27th day of October, 2017, by the following votes:

AYES:

NOES:

ABSTENTIONS:

ABSENT:

ATTEST: _____
Caroline Soto, Secretary

2877948.1



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, Moraga-Orinda Fire District, Rodeo-Hercules Fire District, San Ramon Valley Fire District, University of California, Berkeley and California Department of Transportation

DATE: October 23, 2017
TO: EBRCSA Board of Directors
FROM: Tom McCarthy, Executive Director
SUBJECT: Request for Direction Concerning Transition to Time Division Multiple Access

The following is some information that will be used as a basis for discussion at the October 27, 2017, East Bay Regional Communications System Authority (EBRCSA) Board of Directors meeting. I am requesting direction concerning Transition to "Phase II" migrating from Frequency Division Multiple Access (FDMA) to Time Division Multiple Access (TDMA)

The Federal government's guidelines attempt to anticipate the changes in technology and works to maintain adequate FCC licenses for the channels utilized by all agencies with Project 25 (P25) radios. The changes in technology, available equipment, and growth in Public Safety creates a constantly changing environment in Public Safety Radio. The terms Phase I and Phase II are used in the FCC discussions as to where Public Safety Radio is concerning current radio technology, Phase I FDMA and Phase II TDMA. The FCC had mandated that all systems would transition to Phase II by January 2017 and the transition date was cancelled and the new transition date has not been set.

The EBRCSA radio system was a concept design in 2006 and in 2009 AECOM was hired to perform and submit an extensive review of the East Bay Regional Communications System Authority (EBRCSA) system design in December 2009. The review incorporated technology, system /engineering, and Project 25 (P25) standards used by the Association of Public Safety Communications Officials (APCO). EBRCSA was designed as a Phase I Radio System. The AECOM report published in 2009, anticipated EBRCSA implementing a system which would be Phase I and transition to Phase II.

The initial Phase I consisted of a communications system which would be Frequency Division Multiple Access (FDMA). FDMA allows one radio to operate on a single 12.5 MHz. FDMA has served EBRCSA well, however, the system is monitored 24/7/365 and we are now having what we refer to as "busies" on the system. This is where a Public Safety Person must be put into queue to transmit on the system. The user does not even sense they are in queue because this is often a millisecond in duration. The network monitoring is now indicating loads that AECOM had assumed would have been achieved once EBRCSA had migrated to TDMA. The EBRCSA system serves approximately 18,500 users in Alameda and Contra Costa Counties and, if necessary, 2,500 mutual aid responders from adjoining counties. TDMA allows 2 (two) Public Safety Personnel to operate on the 12.5 MHz at the same time, thus doubling our bandwidth.

In 2009, AECOM assumed that by the time subscribers reached their current number, the network would have already migrated to Phase II TDMA and would have sufficient spectrum available from the doubled network capacity offered by TDMA over FDMA. The credit for enabling the FDMA network to outperform the initial plan can be attributed to the Radio Department for each County and the Technical Advisory Committee (TAC) for the effective job of establishing subscriber radio programming templates that optimize frequency and channel usage. In addition, the credit must also include EBRCSA's Board of Directors and Operations and Finance Committees that have carefully directed the investment of available funds to the areas that have been extended and optimized the FDMA network.

Motorola has prepared a system upgrade proposal which includes the TDMA upgrade, Microwave Network upgrade, and DC Power Upgrade. The proposal has the items which are significant to EBRCSA operation and maintenance of the infrastructure. The Microwave will need to be upgraded to Ethernet and radios will be reaching the end-of-life in the next couple of years. The timing of the upgrade is important as the total project will take approximately 3 (three) years to complete. The current Microwave is Aviat and Motorola has worked with Aviat to include the Microwave upgrade with the TDMA upgrade. The project will replace all the EBRCSA existing Truepoint SONET systems with the new Eclipse TDM/IP Hybrid network and maintain the T-1 loop protections. The upgrade will also increase the capacity 10 GHz to 11 GHz. The Radio Technicians and I have attended a meeting with Aviat recently and discussed the need to begin replacement of the Microwave equipment, as much of this equipment was purchased in 2004 and stored until the project was started in 2006.

Since turning on the EBRCSA system in 2013, EBRCSA's governing body, management and technology partners have successfully stayed ahead of obstacles that could have challenged end-user satisfaction, perceptions, and safety. The constant maintenance, upgrades, expansions of the infrastructure and the timing of end users programming parameters have successfully kept the network performance and user satisfaction high. However, at this time, there is evidence that AECOM's recommended TDMA upgrade should be planned for, immediately.

Motorola has noted that the TDMA pricing is valid through 2017, and will increase to \$9.5M if purchased in 2018, by July 31st.

TDMA Upgrade	\$7,900,000
MW Upgrade	\$8,600,000
<u>DC Power Upgrade</u>	<u>\$2,500,000</u>
Grand Project Total	\$19,000,000
Estimated sales tax	\$454,669

EBRCSA Users currently pay annually for the services provided by EBRCSA. The amount depends whether or not you have paid the Debt Service in Full or through an annual payment for the Debt Service, which will sunset in June 2027.

Agencies all pay a onetime \$200 payment when a new radio is added to the EBRCSA System. The \$200 is from when the system was being built and EBRCSA needed Operating Capital to cover costs not paid by

Grants, we were not collecting subscriber fees at that time. The \$200 has remained in effect and as agencies join or add new radios this fee is charged.

In building the system we needed to secure Bonds to cover the cost of building the system that was not covered by Grants. The Bonds will be paid in full in June 2027, one is with Alameda County and the other Contra Costa County. The Bond payments are what we refer to as Debt Payment and agencies had two options as how to pay their share of the Debt. Agencies could pay a onetime charge of \$1400, per radio, or \$15 per month, annually until June 2027.

Agencies who have paid their Debt Service pay the following annually per radio:

Reoccurring Annual Costs Where Debt Service is Paid				
	Per Radio	Number of Radios	Total Per Month	Annual Payment
Operating Payment FY2017/2018	\$25.00	1	\$25.00	\$300.00

Agencies who pay the Operating Fees and Debt Fees pay the following annually per radio:

Reoccurring Annual Costs where Debt Service is Paid Monthly				
	Per Radio	Number of Radios	Total Per Month	Annual Payment
Operating Payment FY2017/2018	\$25.00	1	\$25.00	\$300.00
Debt Service FY 2017/2018	\$15.00	1	\$15.00	\$180.00
			Total	\$480.00

Motorola has provided the following Lease Payment option to assist us with the cost of transition to TDMA:

	Option One	Option Two	Option Three	Option Four
Estimated Order Date:	<u>2017</u>	<u>2017</u>	<u>2018</u>	<u>2018</u>
Balance to Finance:	\$7,900,000.00	\$7,900,000.00	\$9,500,000.00	\$9,500,000.00
Lease Term:	Five Years	Seven Years	Five Years	Seven Years
Payment Frequency:	Annual	Annual	Annual	Annual
Lease Rate:	1.77%	1.85%	1.77%	1.85%
Lease Factor:	0.210744	0.153622	0.210744	0.153622
Lease Payment:	\$1,664,879.21	\$1,213,616.18	\$2,002,069.93	\$1,459,411.87
Payment Structure:	Arrears	Arrears	Arrears	Arrears
Payment Commencement:	First Payment Due one Year after contract execution for all options			

In addition to the cost of upgrading the Master Site of EBRCSA we will have to upgrade or replace all radios. We understand that the XTS 5000 (Portable Radios) and XTL 5000 (Vehicle Radios) radios will no longer be supported by Motorola as of December 31, 2018. The XTS 5000 and XTL 5000 radios will not work with TDMA. APEX 4000, 6000, 7000 (Portable Radios) and APEX 6500 and 7500 (Mobile Radios) are either TDMA upgradable or TDMA ready. We will be providing all agencies a list of their radios so they can determine TDMA upgradable or ready.

Santa Clara, San Francisco, and Marin are all implementing a new Motorola Solutions, Inc. radio system which is being built as TDMA. If we do not upgrade to TDMA and we respond to any of those regions we will degrade their system to FDMA capacity.

The information is being provided as an overview and background concerning the TDMA conversion for the discussion with the full Board of Directors. The Committees and I feel it is important to discuss this and then return in December to make a decision.

EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY
10 YEAR CASH FLOW PROJECTION Revised 10/23/2017

	FY 2016-17 Projected	FY 2017-18 Budget	FY 2018-19 Forecast	FY 2019-20 Forecast	FY 2020-21 Forecast	FY 2021-22 Forecast	FY 2022-23 Forecast	FY 2023-24 Forecast	FY 2024-25 Forecast	FY 2025-26 Forecast	FY 2026-27 Forecast
Operating Reserve											
Balance - beginning	1,687,000	1,674,500	1,785,500	1,840,745	1,842,294	1,845,303	1,849,819	1,855,890	1,840,397	1,835,311	1,830,072
Operating payments	5,000,000	5,000,000	5,032,585	5,042,853	5,053,140	5,063,449	5,073,778	5,084,128	5,094,498	5,104,889	5,115,301
Initial payments	800,000	-	6,831	6,845	6,859	6,872	6,886	6,900	6,914	6,927	6,941
Interest	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Administration	(225,000)	(279,000)	(287,370)	(295,991)	(304,871)	(314,017)	(323,437)	(333,141)	(343,135)	(353,429)	(364,032)
Audit fees	(18,000)	(20,000)	(20,600)	(21,218)	(21,855)	(22,510)	(23,185)	(23,881)	(24,597)	(25,335)	(26,095)
Insurance	(20,000)	(30,000)	(30,900)	(31,827)	(32,782)	(33,765)	(34,778)	(35,822)	(36,896)	(38,003)	(39,143)
Legal	(6,000)	(20,000)	(20,600)	(21,218)	(21,855)	(22,510)	(23,185)	(23,881)	(24,597)	(25,335)	(26,095)
Lease	-	(5,000)	(5,150)	(5,305)	(5,464)	(5,628)	(5,796)	(5,970)	(6,149)	(6,334)	(6,524)
Licenses and permits	(5,000)	(30,000)	(30,900)	(31,827)	(32,782)	(33,765)	(34,778)	(35,822)	(36,896)	(38,003)	(39,143)
Membership fees	(10,000)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Landscaping	(10,000)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Maintenance											
Customer svc. agmt.	(930,000)	(931,000)	(958,930)	(987,698)	(1,017,329)	(1,047,849)	(1,079,284)	(1,111,663)	(1,145,013)	(1,179,363)	(1,214,744)
SUA II	(826,000)	(832,000)	(938,446)	(961,627)	(967,335)	(973,212)	(979,256)	(1,008,634)	(1,038,893)	(1,070,059)	(1,102,161)
System management	(250,000)	(250,000)	(257,500)	(265,225)	(273,182)	(281,377)	(289,819)	(298,513)	(307,468)	(316,693)	(326,193)
HVAC	(10,000)	(15,000)	(15,450)	(15,914)	(16,391)	(16,883)	(17,389)	(17,911)	(18,448)	(19,002)	(19,572)
Generators	(55,000)	(55,000)	(56,650)	(58,350)	(60,100)	(61,903)	(63,760)	(65,673)	(67,643)	(69,672)	(71,763)
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	(140,000)	(220,000)	(226,600)	(233,398)	(240,400)	(247,612)	(255,040)	(262,692)	(270,572)	(278,689)	(287,050)
Microwave maintenance	(110,000)	(110,000)	(113,300)	(116,699)	(120,200)	(123,806)	(127,520)	(131,346)	(135,286)	(139,345)	(143,525)
Security	(10,000)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Utilities	(120,000)	(140,000)	(144,200)	(148,526)	(152,982)	(157,571)	(162,298)	(167,167)	(172,182)	(177,348)	(182,668)
Web site hosting	(4,000)	(4,000)	(4,120)	(4,244)	(4,371)	(4,502)	(4,637)	(4,776)	(4,919)	(5,067)	(5,219)
Transfer to Capital Reserve	(2,483,500)	(1,338,000)	(1,244,555)	(1,200,717)	(1,116,676)	(1,029,824)	(940,086)	(847,377)	(718,981)	(597,313)	(471,704)
Balance - ending	1,674,500	1,785,500	1,840,745	1,842,294	1,845,303	1,849,819	1,855,890	1,840,397	1,835,311	1,830,072	1,824,676
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	1,000,000	1,000,000	1,000,000
Service payment	1,200,000	1,200,000	1,214,115	1,216,813	1,219,516	1,222,225	1,224,939	1,227,659	1,230,383	1,233,114	1,235,850
Principal	(370,000)	(437,000)	(454,000)	(473,000)	(492,000)	(512,000)	(532,000)	(553,000)	(576,000)	(600,000)	(623,000)
Bond interest	(280,000)	(213,000)	(196,000)	(177,000)	(158,000)	(138,000)	(118,000)	(97,000)	(74,000)	(50,000)	(27,000)
Transfer to Capital Reserve	(550,000)	(550,000)	(564,115)	(566,814)	(569,516)	(572,225)	(574,939)	(577,659)	(580,383)	(583,114)	(585,849)
Balance - ending	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
Capital Reserve											
Balance - beginning	2,246,914	5,440,414	7,238,414	7,797,084	8,314,615	8,750,807	9,102,856	9,367,881	9,542,917	9,592,281	9,522,708
Grants	360,000	630,000	-	-	-	-	-	-	-	-	-
Transfer In	3,033,500	1,888,000	1,808,670	1,767,531	1,686,192	1,602,049	1,515,025	1,425,036	1,299,364	1,180,427	1,057,553
Capital	(200,000)	(720,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)
Balance - ending	5,440,414	7,238,414	7,797,084	8,314,615	8,750,807	9,102,856	9,367,881	9,542,917	9,592,281	9,522,708	9,330,261
TOTAL RESERVE BALANCE	8,114,914	10,023,914	10,637,830	11,156,909	11,596,110	11,952,676	12,223,771	12,383,314	12,427,592	12,352,780	12,154,937



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 XX

STAFF REPORT BOARD OF DIRECTORS MEETING MEETING DATE: JUNE 23, 2017

SUMMARY:

Presented for your adoption is the budget for the Authority for the fiscal year 2017-18. The total Operating Budget totals \$3.6M. Included in the budget are:

REVENUE ESTIMATES

- \$5M in Operating Payments from members
- \$1.2M in Service Payments from members
- \$630,000 in Grants from the 2016 UASI
- \$1.9M to Transfer In for future Capital purposes

EXPENSE ESTIMATES

- \$3M in Maintenance expense
- \$650,000 for Debt Service
- \$720,000 for Capital expenditures

RECOMMENDED ACTION:

The staff recommends that the Authority adopt the budget for 2017-18 as submitted.



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

BUDGET **FISCAL YEAR 2017-18**

Revenues

Operating payments	5,000,000
Service payments	1,200,000
Grants	630,000
Interest	20,000
Total revenues	6,850,000

Expenses

Administration	279,000
Audit fees	20,000
Insurance	30,000
Lease	5,000
Legal	20,000
Licenses and permits	30,000
Membership fees	10,000
Landscaping	10,000
Maintenance	3,013,000
Security	10,000
Utilities	140,000
Website hosting	4,000
Total operating expenses	3,571,000
Capital	720,000
Debt Service	650,000
Total expenses	4,941,000
Net Income	1,909,000

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM
EXPENDITURE DETAIL
FISCAL YEAR 2017-2018**

OPERATING EXPENSES	FY16-17 Budget	FY16-17 Projected	FY17-18 Budget	Change FY17 vs FY18
Administration				
Executive director	225,000	210,000	225,000	(15,000)
Administrative assistant	40,000	15,000	40,000	(25,000)
Travel	4,000	-	4,000	(4,000)
Miscellaneous	10,000	-	10,000	(10,000)
Audit fees	18,000	18,000	20,000	(2,000)
Insurance	30,000	20,000	30,000	(10,000)
Legal	20,000	6,000	20,000	(14,000)
Lease	-	-	5,000	(5,000)
Licenses and permits	5,000	5,000	30,000	(25,000)
Membership fees	10,000	10,000	10,000	-
Landscaping	10,000	10,000	10,000	-
Maintenance				
Service agreement	930,000	930,000	931,000	(1,000)
Software maintenance	826,000	826,000	832,000	(6,000)
System management	250,000	250,000	250,000	-
HVAC maintenance	15,000	10,000	15,000	(5,000)
Generator maintenance	55,000	55,000	55,000	-
ALCO general maintenance	600,000	600,000	600,000	-
COCO general maintenance	220,000	140,000	220,000	(80,000)
Microwave maintenance	-	110,000	110,000	-
Security	10,000	10,000	10,000	-
Utilities	140,000	120,000	140,000	(20,000)
Website hosting	4,000	4,000	4,000	-
Total expenses	3,422,000	3,349,000	3,571,000	(222,000)
CAPITAL EXPENDITURES				
Nice logger	200,000	200,000	-	200,000
Inter Sub System Interface	-	-	360,000	(360,000)
ALCO East 2-Channel Upgrade	-	-	360,000	(360,000)
Total expenditures	200,000	200,000	720,000	(520,000)
DEBT SERVICE				
Principal	370,000	370,000	437,000	(67,000)
Interest	280,000	280,000	213,000	67,000
Total expenses	650,000	650,000	650,000	-

**EAST BAY REGIONAL COMMUNICATIONS SYSTEM
PROJECTED CASH RESERVE BALANCES
FISCAL YEAR 2017-2018**

	FY16-17 Budget	FY16-17 Projected	FY17-18 Budget
Operating Reserve			
Beginning Balance	1,687,000	1,687,000	1,674,500
Operating Payments	4,035,600	5,000,000	5,000,000
Initial Payments	-	800,000	-
Interest	16,000	20,000	20,000
Operating Expenses	(3,422,000)	(3,349,000)	(3,571,000)
Transfer to Capital Reserve	(605,600)	(2,483,500)	(1,338,000)
Ending Balance	1,711,000	1,674,500	1,785,500
Debt Service Reserve			
Beginning Balance	1,000,000	1,000,000	1,000,000
Service Payments	919,800	1,200,000	1,200,000
Debt Service	(650,000)	(650,000)	(650,000)
Transfer to Capital Reserve	(269,800)	(550,000)	(550,000)
Ending Balance	1,000,000	1,000,000	1,000,000
Capital Reserve			
Beginning Balance	1,629,031	2,246,914	5,440,414
Grants	-	360,000	630,000
Transfer In	875,400	3,033,500	1,888,000
Capital	(200,000)	(200,000)	(720,000)
Ending Balance	2,304,431	5,440,414	7,238,414
Total Reserve Balance	5,015,431	8,114,914	10,023,914

EAST BAY REGIONAL COMMUNICATIONS SYSTEM AUTHORITY
10 YEAR CASH FLOW PROJECTION

	FY 2016-17 Projected	FY 2017-18 Budget	FY 2018-19 Forecast	FY 2019-20 Forecast	FY 2020-21 Forecast	FY 2021-22 Forecast	FY 2022-23 Forecast	FY 2023-24 Forecast	FY 2024-25 Forecast	FY 2025-26 Forecast	FY 2026-27 Forecast
Operating Reserve											
Balance - beginning	1,687,000	1,674,500	1,785,500	1,866,787	1,911,922	1,958,415	2,006,304	2,055,628	2,106,426	2,169,619	2,234,707
Operating payments	5,000,000	5,000,000	5,032,585	5,042,853	5,053,140	5,063,449	5,073,778	5,084,128	5,094,498	5,104,889	5,115,301
Initial payments	800,000	-	6,831	6,845	6,859	6,872	6,886	6,900	6,914	6,927	6,941
Interest	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Administration	(225,000)	(279,000)	(287,370)	(295,991)	(304,871)	(314,017)	(323,437)	(333,141)	(343,135)	(353,429)	(364,032)
Audit fees	(18,000)	(20,000)	(20,600)	(21,218)	(21,855)	(22,510)	(23,185)	(23,881)	(24,597)	(25,335)	(26,095)
Insurance	(20,000)	(30,000)	(30,900)	(31,827)	(32,782)	(33,765)	(34,778)	(35,822)	(36,896)	(38,003)	(39,143)
Legal	(6,000)	(20,000)	(20,600)	(21,218)	(21,855)	(22,510)	(23,185)	(23,881)	(24,597)	(25,335)	(26,095)
Lease	-	(5,000)	(5,150)	(5,305)	(5,464)	(5,628)	(5,796)	(5,970)	(6,149)	(6,334)	(6,524)
Licenses and permits	(5,000)	(30,000)	(30,900)	(31,827)	(32,782)	(33,765)	(34,778)	(35,822)	(36,896)	(38,003)	(39,143)
Membership fees	(10,000)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Landscaping	(10,000)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Maintenance											
Customer svc. agmt.	(930,000)	(931,000)	(958,930)	(987,698)	(1,017,329)	(1,047,849)	(1,079,284)	(1,111,663)	(1,145,013)	(1,179,363)	(1,214,744)
SUA II	(826,000)	(832,000)	(912,404)	(918,040)	(923,851)	(929,839)	(936,003)	(942,343)	(970,613)	(999,732)	(1,029,724)
System management	(250,000)	(250,000)	(257,500)	(265,225)	(273,182)	(281,377)	(289,819)	(298,513)	(307,468)	(316,693)	(326,193)
HVAC	(10,000)	(15,000)	(15,450)	(15,914)	(16,391)	(16,883)	(17,389)	(17,911)	(18,448)	(19,002)	(19,572)
Generators	(55,000)	(55,000)	(56,650)	(58,350)	(60,100)	(61,903)	(63,760)	(65,673)	(67,643)	(69,672)	(71,763)
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	(140,000)	(220,000)	(226,600)	(233,398)	(240,400)	(247,612)	(255,040)	(262,692)	(270,572)	(278,689)	(287,050)
Microwave maintenance	(110,000)	(110,000)	(113,300)	(116,699)	(120,200)	(123,806)	(127,520)	(131,346)	(135,286)	(139,345)	(143,525)
Security	(10,000)	(10,000)	(10,300)	(10,609)	(10,927)	(11,255)	(11,593)	(11,941)	(12,299)	(12,668)	(13,048)
Utilities	(120,000)	(140,000)	(144,200)	(148,526)	(152,982)	(157,571)	(162,298)	(167,167)	(172,182)	(177,348)	(182,668)
Web site hosting	(4,000)	(4,000)	(4,120)	(4,244)	(4,371)	(4,502)	(4,637)	(4,776)	(4,919)	(5,067)	(5,219)
Transfer to Capital Reserve	(2,483,500)	(1,338,000)	(1,244,555)	(1,200,717)	(1,116,676)	(1,029,824)	(940,086)	(847,377)	(718,981)	(597,313)	(471,704)
Balance - ending	1,674,500	1,785,500	1,866,787	1,911,922	1,958,415	2,006,304	2,055,628	2,106,426	2,169,619	2,234,707	2,301,748
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	1,000,000	1,000,000	1,000,000
Service payment	1,200,000	1,200,000	1,214,115	1,216,813	1,219,516	1,222,225	1,224,939	1,227,659	1,230,383	1,233,114	1,235,850
Principal	(370,000)	(437,000)	(454,000)	(473,000)	(492,000)	(512,000)	(532,000)	(553,000)	(576,000)	(600,000)	(623,000)
Bond interest	(280,000)	(213,000)	(196,000)	(177,000)	(158,000)	(138,000)	(118,000)	(97,000)	(74,000)	(50,000)	(27,000)
Transfer to Capital Reserve	(550,000)	(550,000)	(564,115)	(566,814)	(569,516)	(572,225)	(574,939)	(577,659)	(580,383)	(583,114)	(585,849)
Balance - ending	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
Capital Reserve											
Balance - beginning	2,246,914	5,440,414	7,238,414	7,797,084	8,314,615	8,750,807	9,102,856	9,367,881	9,542,917	9,592,281	9,522,708
Grants	360,000	630,000	-	-	-	-	-	-	-	-	-
Transfer In	3,033,500	1,888,000	1,808,670	1,767,531	1,686,192	1,602,049	1,515,025	1,425,036	1,299,364	1,180,427	1,057,553
Capital	(200,000)	(720,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)	(1,250,000)
Balance - ending	5,440,414	7,238,414	7,797,084	8,314,615	8,750,807	9,102,856	9,367,881	9,542,917	9,592,281	9,522,708	9,330,261
TOTAL RESERVE BALANCE	8,114,914	10,023,914	10,663,872	11,226,537	11,709,222	12,109,160	12,423,509	12,649,343	12,761,900	12,757,415	12,632,010