

# SECTION 4

# QUALIFICATIONS

RADIO COMMUNICATIONS SYSTEM

DECEMBER 21, 2016



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# QUALIFICATIONS

## 4.1 A.) DESCRIPTIONS OF THE RESPONDENT'S QUALIFICATIONS

### 4.1.1 Background and Experience

This section details Motorola's background, organizational structure, decision-making roles, the project design team roles, and our experience in developing 700 MHz Project 25 Phase 2 radio systems. Motorola's relevant background in the government and public safety communications field will contribute directly to the success of Marin CountyMERA. Our bench strength, accomplishments, and volume of past projects will remove barriers and hurdles faced by the CountyMERA— guaranteed. This section details our past success in meeting the goals of our customers, who like the CountyMERA, are faced with challenging budgets, financial uncertainty and required to do more with less. Motorola's relevant experience offers:

- On time and on budget guarantee.
- Repeated successes of large, complex LMR projects.
- Resilient trunked and trunked simulcast designs for maximum efficiency.
- Innovative support for Project 25 Phase 2 standards-based technology.
- Proven delivery of radio systems and subsystems.
- Lowest risk approach.

For the CountyMERA, Motorola's team has developed a disciplined approach that will meet your goals and bring the project to a successful completion, on time and within budget. Our professional team, led by local experts, brings Motorola's experience to bear directly overcoming challenges, meeting deadlines, and achieving your operational goals.

### 4.1.2 Motorola Solutions, Inc. – Background & Corporate Overview

Motorola is a global leader in providing mission-critical communication solutions, products, and services for the public safety, government and enterprise markets consisting of retail, energy and utilities, transportation, manufacturing, healthcare and other commercial customers. Motorola's market leadership in public safety communications provides solutions from infrastructure to applications to two-way radios and mobile computing devices. Motorola also produces professional and commercial two-way radios and solutions for business enterprise markets.

Since 1928, Motorola has been committed to innovation in communications and electronics. During its 87-year history, Motorola has proudly served the public safety and government markets by providing reliable mission-critical interoperable wireless communications systems, products, and services. Our 15,000 employees worldwide are focused exclusively on our public safety, government and enterprise customers. We stand by our commitment of innovation through an annual investment, upwards of \$750 million, a year in research & development in order to improve our solutions and to create future technologies for the customers and markets we serve. We have design centers around the globe that focus on human dynamics, functionality of products and systems, application development, and the improvement of advanced Internet Protocol (IP) platforms.



From the development of our first public safety two-way vehicular radio in 1931, to the advanced digital trunking networks being deployed today, Motorola is very proud of its heritage and ability to provide reliable communications for our customers. We will provide the same level of performance to the CountyMERA and its member agencies.

### 4.1.3 Organizational Structure

Motorola's heritage began with providing communications equipment to public safety customers. Over the years, we have utilized our innovation and experience across all of our business units to drive new technology, such as cell phones and microprocessors. However, our focus has always been and continues to be our government and public safety enterprise. From the Board of Directors to the individual project contributors for the CountyMERA, the Motorola family is structured in such a way that doors are always open and managers always available for the needs of our public safety customers, including the CountyMERA. Beginning with the Board of Directors, Motorola is more than a business organization, but a family with the following members to support you:

#### 4.1.3.1 Motorola's Organization and Management Structure

Reporting to Greg Brown, CEO are Jack Molloy, Bruce Brda and Gino Bonanotte. Respectively, they have responsibility over Motorola sales, solutions & services, products & systems, and finance. Reporting up to Jack are the regional and local vice presidents, including Jim Mears and Travis Boettcher, who run our sales teams and make sure that we are doing everything possible to provide the very best value to the CountyMERA. Motorola's local System Integration vice presidents and managers, include Howard Chercoe, Karl Zimmer, and Wayne Wahlgren. These managers oversee our teams of engineers and project managers working every day to complete your project.

## 4.2 B.) RESUMES OF KEY PERSONNEL

### Senior Account Manager—Rodney Hughes

Rodney Hughes	
<b>Senior Account Manager</b>	Motorola Solutions, Inc. 1001 Bayhill Dr. Suite 261 San Bruno, Ca 94066 <a href="tel:805-390-7782">805-390-7782</a>
<b>Date of Hire</b>	January 2001
<b>Motorola Professional Experience</b>	<p>Has been employed with Motorola for 14+ years and has extensive experience with account management specifically in State and Local Government. The past 9 years have primarily been supporting customer's current radio systems/equipment and helping provide a migration plan for future upgrades. Local point of contact for customers for all issues regarding Motorola Solutions. Assist with all day-to-day requests to help agencies communicate successfully.</p> <p><i>01/2014-present</i></p> <p><b>Senior Account Manager Counties of San Francisco, San Mateo &amp; Marin.</b></p> <ul style="list-style-type: none"> <li>- Support locally all public safety and city agencies in above Counties             <ul style="list-style-type: none"> <li>- Assisted with completion of Amendment 8 of current EA with CCSF</li> </ul> </li> <li>- In process of obtaining contract for SFPD Video Wall Project             <ul style="list-style-type: none"> <li>- Sold ISSI Project to CCSF to help communicate with BART &amp; SFMTA</li> <li>- Sold Console Upgrade to SFSU</li> <li>- Sold Console Upgrade to SMC for new Jail Site</li> </ul> </li> </ul> <p><i>04/2007-01/2014</i></p> <p><b>Senior Account Manager for Los Angeles, Ca &amp; Long Beach, Ca</b></p> <ul style="list-style-type: none"> <li>- Supported all public safety agencies in Long Beach, Ca along with LAWA, LAUSD, Port of LA, LADWP in Los Angeles</li> <li>- Coordinate solutions teams including project managers, bid and quote team and field engineers</li> <li>- Sold LAWA P25 UHF Trunked Digital 3 Site Simulcast with 1 ISR Site 6ch System with UHF Conv Analog 2 Site 2ch System with 3 Satellite Rx Sites. 17 MCC7500 positions and 2500 P25 radios</li> <li>- Sold LAUSD P25 UHF Conv Digital 5 Site Simulcast 2ch IV&amp;D System. 4 MCC7500 positions, 1300 P25 radios and 10,000 non-P25 radios</li> <li>- Sold Port of LA P25 UHF Conv Digital 3 Site Simulcast and 3 Stand Alone Sites 4ch IV&amp;D System. 6 MCC7500 positions and 500 P25 radios             <ul style="list-style-type: none"> <li>- Sold Port of Long Beach P25 800 MHz Trunked Digital Astro Express Single Site 6ch System</li> <li>- Sold LADWP P25 900 MHz Smartzone Digital 3 site simulcast (14 ch) with 2 ISR sites (3 ch). 25 MCC7500 positions, 18 MCC7100 positions and 3000 P25 radios</li> </ul> </li> </ul>



**Rodney Hughes**

	<p><i>04/2006-04/2007</i></p> <p><b>Account Manager Ventura County, Santa Barbara County, San Luis Obispo County &amp; Kern County</b></p> <ul style="list-style-type: none"><li>- Support all of the County Agencies in above accounts.</li><li>- Solutions teams including project managers, bid and quote team and field engineers</li><li>- Assisted upgrade of Ventura County System Project to a P25 7x core</li></ul> <p><i>01/2001-04/2006</i></p> <p><b>Inside Account Manager</b></p> <ul style="list-style-type: none"><li>- Support Account Mangers in the field with daily activities and sales</li><li>- Provided quotes, placed orders, tracked orders, resolved customer issues</li><li>- Main point of support for customers on daily needs</li></ul>
<b>Education</b>	<p><b>Florida State University</b> <b>Master's Degree – Sport Administration</b></p> <p><b>Indiana University</b> <b>Bachelor's Degree – Rec Sports Mgmt</b></p>



# System Engineer—Phil Wenstrand

Phil Wenstrand	
<b>Senior Staff Systems Engineer</b>	1001 Bayhill Dr, Suite 261 San Bruno, CA 94066 650-554-1569
<b>Year of Hire</b>	2003
<b>Motorola Professional Experience</b>	<p>13 years of experience with Motorola in field engineering and product development.</p> <p><i>10/2013 – Present</i></p> <p><b>Lead System Engineer – East Bay Regional Communications System</b></p> <p>Lead System Engineer for East Bay Regional Communications System (EBRCS) which is a regional P25 system covering Alameda and Contra Costa Counties in the San Francisco Bay area. EBRCS has 6 simulcast cells, 30 dispatch centers and over 15,000 subscribers. Implemented an expansion of their logging subsystem, and added 7 new MCC7500 dispatch sites to the network. Performed a detailed capacity analysis and implemented several RF channel expansion projects, and assisted with the system upgrade to A7.13 and A7.15 releases. Enabled interoperability with EBRCS subscribers on the BART underground system.</p> <p><i>2/2014 – 7/2016</i></p> <p><b>Lead System Engineer – City of Oakland Transition to EBRCS</b></p> <p>Lead System Engineer for City of Oakland’s transition from their standalone P25 system to EBRCS. Implemented 28 MCC7500 dispatch consoles across two locations for Oakland Police and Oakland Fire Dispatch. Worked closely with their dispatch and communications staff to implement unique solutions to meet their operational needs with a successful cutover to EBRCS in June 2016.</p> <p><i>03/2014 – 12/2014</i></p> <p><b>System Engineer - Hawaii County RFP</b></p> <p>Designed the dispatch and logging subsystems for Motorola’s response to the Hawaii County RFP. Design included 18 MCC7500 Dispatch positions, and logging recording subsystem which integrates with P25 trunking system and multiple telephony systems.</p> <p><i>09/2013 – 09/2014</i></p> <p><b>Lead System Engineer – SamTrans Voice and Data Migration</b></p> <p>Lead System Engineer for SamTrans (San Mateo County Transit) for their successful migration from an analog conventional system with Gold Elite Consoles to the San Mateo County P25 system with MCC7500 Consoles. Created design and cutover plan that allowed for a seamless transition from their legacy system to the new system by configuring the MCC7500 Consoles to communicate on the legacy conventional channels during the transition.</p> <p><i>04/2013 – 02/2014</i></p> <p><b>System Engineer – San Mateo County</b></p> <p>System Engineer for San Mateo County Interoperability Radio Communications Project. Worked with Lead System Engineer to implement a five site five channel conventional simulcast subsystem.</p>



**Phil Wenstrand**

<b>Other Professional Experience</b>	<p>Career Motorola employee with experience in product development of MCC7500 and MCC7100 Dispatch Consoles.</p> <p><i>Motorola Solutions – 2004-2012</i></p> <p><b>Senior Software Engineer</b></p> <p>Information Assurance (IA) technical lead for a department of 30+ software engineers in two design centers. Provided technical leadership for resolution of software security issues and guidance for secure software design decisions for mission critical Windows application.</p> <p>C and C++ developer on call processing application. Responsible for analysis, design, implementation, testing, and maintenance of real time software for IP-based dispatch console used in the Motorola ASTRO 25 radio system.</p> <p>Resolved customer issues for all Consoles products including: Gold Elite, MGEG and MCC7500 as member of MOL team for over 6 years. Involved with resolution of console issues at Motorola Solutions staging Customer Center for Systems Integration (CCSi).</p> <p><i>Motorola Solutions – 2003-2004</i></p> <p><b>Software Engineer</b></p> <p>Software box tester for first Motorola IP-based console, which would eventually be released as the MCC7500 Dispatch Console in 2005.</p>
<b>Education</b>	<p>B.S., Degree in Computer Science University of Illinois, Urbana/Champaign, IL</p>
<b>Training, Certifications, and Memberships</b>	<p>Training:</p> <p>Design for ASTRO 25 IV&amp;D Systems with M Core Advanced Coverage Design Using Hydra RF Network Analysis &amp; Hardware Solutions Motorola Networking Tier II</p> <p>Certifications:</p> <p>CompTia Network+ Certified Software Development Professional (CSDP); IEEE Computer Society</p>

# Project Manager—Charlie Hasenbeck

Charlie Hasenbeck	
<b>Project Manager</b>	6450 Sequence Drive San Diego, CA 92121 858-449-1687
<b>Year of Hire</b>	1984
<b>Motorola Professional Experience</b>	<p>30 years of experience with Motorola in multiple disciplines ranging from engineering to account management and the last 13 years in Project Management. Recent responsibilities include management of large complex system implementations of wide area multi agency public safety communications systems.</p> <p>Project Manager responsibilities include: project scheduling, managing Motorola Solutions personnel and subcontractors, meeting coordination, documenting meeting minutes and action items, customer training coordination, installation supervision and coordination, system cutover coordination and documentation, transition to warranty support and risk management.</p> <p><i>1/2016 – Present</i></p> <p><b>Project Manager – City and County of Honolulu P25 Radio System</b></p> <p>Program Manager responsible for the coordination and implementation of the County-Wide P25 700/800 MHz simulcast system. System includes 16 radios sites including replacement of DC Power plants and 19 dispatch locations. Responsibilities include coordinating engineering, system technologists and subcontractors to provide design, delivery, installation, optimization, training and cutover activities for the end users.</p> <p><i>12/2014 – 12/2016</i></p> <p><b>Project Manager – Hawaii County VHF Radio System</b></p> <p>Program Manager responsible for the coordination and implementation of the County-Wide Project 25 VHF TDMA Communications System for Police, Fire, Civil Defense and Public Works. System includes 16 radios sites, 3 dispatch centers with new IP logging recorders, 2500 subscribers and minor civil work. Responsibilities include coordinating engineering, system technologists and subcontractors to provide design, delivery, installation, optimization, training and cutover activities for the end users.</p> <p><i>06/2011 – 12/2014</i></p> <p><b>Project Manager – Kauai County 800MHz Radio Maintenance Upgrade</b></p> <p>Program Manager responsible for the coordination and implementation of Project 25 migration of an existing Motorola five site County wide simulcast system and dispatch center. Phase 1 included replacement of the Master Site Controllers with Motorola SmartX Network and replacement of the dispatch equipment with MCC7500's. Phase 2 includes replacement of the simulcast repeaters, DC power plants and two hops of microwave while minimizing system downtime. Phase 3 will be the final step of P25 implementation by converting the subscribers and infrastructure.</p> <p><i>03/2011 – 06/2014</i></p> <p><b>Project Manager – Marin County MERA Radio Communications System</b></p> <p>Management of Motorola Solutions implementation team and subcontractors to deploy a three phase County wide system upgrade. Phase 1 included a wide area 700 MHz</p>



**Charlie Hasenbeck**

	<p>mutual aid radio system design and deployment. Phase 2 included design and deployment of a SmartX upgrade replacing the simulcast trunking controllers. Phase 3 included the design and deployment of new dispatch communication consoles for the new County Dispatch Center.</p> <p><i>10/2008 – 12/2010</i></p> <p><b>Project Manager – Eastern Riverside County Interoperable Communications Authority Regional Communications System</b></p> <p>Managed a cross functional team of engineers and system technologist to implement a multisite communications system consisting of simulcast and standalone radio sites, four dispatch centers, and mobile and portable radio deployment for five municipalities.</p>
<p><b>Other Professional Experience</b></p>	<p>Career Motorola employee with experience in multiple disciplines.</p> <p><i>2001 - Present</i></p> <p><b>Project Manager</b></p> <p>Program Manager focusing on Large Complex Projects in California and Hawai'i.</p> <p><i>Motorola Solutions - 1999 - 2001</i></p> <p><b>Large Project Business Manager</b></p> <p>Provided Presale System Integration and Service leadership, direction and support on large projects by marketing the System Integration portfolio. Provided cost estimates for large integration efforts.</p> <p><i>Motorola Solutions - 1997 - 1999</i></p> <p><b>System Integration Business Manager</b></p> <p>Managed and directed System Integration support departments; Proposal Center, Customer Training, Bid and Quote Team, Drafting Department.</p> <p><i>Motorola Solutions - 1991 - 1997</i></p> <p><b>Engineering Manager</b></p> <p>Managed and directed engineering staff for Northern California. Coordinated design and implementation efforts for team. Performed post project reviews to continually improve team productivity. Coordinated with Sales regarding project assignments and strategies.</p> <p><i>Motorola Solutions - 1988 - 1991</i></p> <p><b>Account Manager - Sales</b></p> <p>Responsible for sales to Petro-Chemical companies; UNOCAL, Shell Oil, Exxon, TOSCO, Chevron, and Dow Chemical. Directed and planned roll-out of 900MHz trunking to Bay Area Refineries and Chemical Plants.</p> <p><i>Motorola Solutions - 1984 - 1988</i></p> <p><b>System Engineer</b></p> <p>Supported sales in Northern California, Oregon and Washington with radio system designs including microwave systems. Includes Two years as group leader for Northern California system engineers.</p>



**Charlie Hasenbeck**

<b>Education</b>	<b>San Francisco State University, San Francisco, CA</b> B.S., Degree in Electronic Engineering
<b>Training, Certifications, and Memberships</b>	Program Management Institute Member Quality – Motorola Digital Six Sigma Yellow Badge Certified



# System Technologist—Peter Acord

Peter Acord	
<b>System Technologist</b>	Peter Acord has been working for Motorola for the last 5 years as a System Technologist in Northern California. During that time he has worked on many projects both inside and outside the territory supporting all aspects of Motorola's P25 LMR Communications Systems, including integration and inter-vendor interoperability. Peter's experience with servers, networking, and network security are assets for implementing today's modern radio systems, as are his troubleshooting skills. He currently resides in the San Francisco bay area.
<b>Year of Hire</b>	2010
<b>Motorola Professional Experience</b>	<p><i>2010 - Present</i></p> <p><b>System Technologist</b></p> <ul style="list-style-type: none"> <li>- Territory 8/Northern California ST</li> </ul> <p><i>2009 - 2010</i></p> <p><b>Alameda County GSA Communications</b></p> <ul style="list-style-type: none"> <li>- 800MHz Rebanding Subscriber Support - Public Safety Radio System</li> </ul>
<b>Other Professional Experience</b>	<p><b>State of California (Multiple Agencies)</b></p> <p><b>Statewide P25 Public Safety Communications Solutions</b></p> <p><i>Lead System Technologist</i></p> <ul style="list-style-type: none"> <li>- Master Site with multiple-facility RF coverage</li> <li>- Large scale subscriber &amp; subscriber management deployments</li> </ul> <p><b>City of Oakland, CA</b></p> <p><b>Transition Project</b></p> <p><i>System Technologist</i></p> <ul style="list-style-type: none"> <li>- Transition the City of Oakland, CA from a competitive system &amp; subscribers to the regional Motorola P25 system</li> <li>- Console and subscriber deployments</li> </ul> <p><b>Sacramento Regional Radio Communications System</b></p> <p><b>County-wide P25 Public Safety Communications System</b></p> <p><i>Lead System Technologist</i></p> <ul style="list-style-type: none"> <li>- Ongoing buildout of the P25 radio system serving multiple agencies</li> <li>- Console and RF site deployments</li> </ul> <p><b>East Bay Regional Communications System</b></p> <p><b>Two-county P25 Public Safety Communications System</b></p> <p><i>System Technologist</i></p> <ul style="list-style-type: none"> <li>- System Install &amp; Configuration</li> <li>- Inter-vendor interoperability subscriber programming (Harris &amp; EF Johnson)</li> </ul>

**Peter Acord**

<b>Education</b>	<b>San Francisco State University</b> San Francisco, CA Courses in Computer Science  <b>Encinal High School</b> Alameda, CA
<b>Training, Certifications, and Memberships</b>	Motorola Digital Six Sigma Quality White Badge Certified Motorola Tier 3 Network Specialist Certified CompTIA Network+



## 4.3 C.) SUPPLEMENTARY INFORMATION

Motorola's proposal does not include any supplementary information for this section.





## 4.4 D.) FIVE SYSTEM REFERENCES

In order to more thoroughly understand a firm's experience in implementing projects of a similar scope, the CountyMERA has requested five references. Specifically, the RFP asks for information describing experience and qualifications with similar projects.

### 4.4.1 Reference Overviews

Motorola is including five reference projects noted below and a brief narrative. Each reference project was selected due to its similar size, scope, technology, and potential for unplanned events when compared to Marin CountyMERA and your requirements. We hope you will reach out to each of these references and learn more about their experiences working with Motorola Solutions. Following these overviews is a one page reference form, which describes the project in more detail and provides contact information which the CountyMERA may use to contact the manager or director of each system.

### 4.4.2 Motorola References

Motorola references follow.





## East Bay Regional Communications System Authority

County of Alameda - 4985 Broder Boulevard, Dublin, CA 94586

Motorola is the prime contractor and responsible for all aspects of the P25 system described below from design and manufacture through implementation, optimization, testing, acceptance and customer training.

Motorola was selected to provide a P25 migration solution for the existing Alameda County SmartNet 800 MHz radio system. The new P25 700 MHz network was deployed in a number of stages, starting with the P25 Core and two radio sites. The current deployment includes 34 RF radio sites in 6 linear simulcast cells. As part of the initial deployment, Motorola was responsible for completing a needs analysis and providing a two county system design that provided the basis for future system expansion as funding became available.

Ultimately the network will provide interoperable radio coverage over the ridgelines and through the valleys of the two counties of Alameda and Contra Costa, serving Public Safety and Public Service agencies in over 30 cities with a population of over 2.6M people. The P25 solution will also provide interoperable communications with other San Francisco UASI agencies deploying P25 Trunked radio systems.

### Motorola System Description Project 25 System Migration

- 800 MHz and 700 MHz Frequency Band – FDMA (Phase 1)
- 34 Sites, 25 Channels
- 355 Base Stations
- Linear Simulcast
- Project 25 Digital Data Technology
- SmartZone – P25 Trunked Voice Technology
- 13,600 Subscriber Radios
- 182 Dispatch Consoles
- Alameda and Contra Costa Counties
- Contra Costa West Cell Completion – August 2011
- All Cells Completion – June 2013
- Programming Over P25 (POP25)
- GPS

Initial Contract (P25 Migration): 2005

Completion Date (P25): 2010

Final Phase Completion: 2013

Contract Value (P25): \$17M (Final Phase)

#### Customer Contact:

Tom McCarthy  
Executive Director  
Alameda County  
(510) 225-5930  
tmccarthy@acgov.org



Reference Sheet



## Silicon Valley Regional Communications System Silicon Valley Regional Interoperable Authority (SVRIA)

601 El Camino Real, Santa Clara, CA 95050

Motorola is the prime contractor and responsible for all aspects of the P25 system described below from design and manufacture through implementation, optimization, testing, acceptance and customer training. Motorola was selected to provide a P25 system for the Silicon Valley Regional Interoperability Authority, a Joint Powers Authority tasked with managing the development and deployment of a Regional Interoperable Communications network for Public Safety and Public Service providers within Santa Clara County and Cities. The new P25 700 MHz Phase 2 network has been deployed in a number of stages, starting with the P25 Core and three radio sites for the Cities of Sunnyvale and Santa Clara. The current deployment includes 12 RF radio sites that provided the Public Safety Radio communications for Super Bowl 50.

The final configuration will be 31 radio sites in 3 simulcast cells with 6 standalone trunking sites. As part of the initial deployment, Motorola was responsible for completing a needs analysis and providing a county wide system design that provided the basis for future system expansion as funding became available. Ultimately the network will provide interoperable radio coverage serving 19 Public Safety and Public Service agencies with a population approaching 2M people. The P25 solution will also provide interoperable communications with other San Francisco UASI agencies deploying P25 Trunked radio systems.

### Motorola System Description – Final Buildout

- 700 MHz Frequency Band
- Project 25 TDMA (Phase II)
- 31 Sites, 56 Channels, 94 talkpaths
- 308 Base Stations
- Project 25 Digital Data Technology
- P25 Trunked Voice Technology (SmartZone)
- 10,600 Subscriber Radios
- 138 Dispatch Consoles
- Programming over P25 (PoP25)
- GPS
- Site Upgrades – 20 sites
- Complete Site Development – 14 sites
- System Buildout Complete – December 2018

Initial Contract (County of Santa Clara on behalf of the SVRIA and City of Sunnyvale and City of Santa Clara): 2012

Completion Date: 2018

Contract Value Infrastructure: \$26M

#### Customer Contact:

Heather Plamondon  
Executive Director  
Silicon Valley Regional Interoperable Authority  
(408) 615-5571  
hplamondon@svria.org



Reference Sheet







## Prince George's County, Maryland

1400 McCormick Drive Largo, MD 20774

### Synopsis

The Prince George County, MD project was for the full design and implementation of a digital radio system including data and backhaul. The system consists of two simulcast cells, three repeater sites, and 75 MCC 7500 dispatch consoles with NICE logging.

### Motorola System Description

- 700 MHz Frequency Band
- Project 25 Phase 2 TDMA
- One ASTRO Master Site
- 2 Simulcast Cells (Site 1 has 11 RF sites and 14 channels, Site 2 has 10 RF sites and 11 channels), 3 ASR sites (3 channels each- subway tunnels)
- 33 Repeater Sites (Includes RF sub sites and dispatch)
- 2 Simulcast Cells (Site 1 has 11 RF sites and 14 channels; Site 2 has 10 RF sites and 11 channels)
- 3 ASR sites (3 channels each, subway tunnels)
- 10,000+ Radios supported
- 10 towers built
- 23 new shelters
- 75 MCC positions including NICE Logging
- 10,000 portable and mobile radios
- MW810 Mobile Workstations
- Other subsystems
- MNI Microwave, Cassidian 911, Asset Management
- Currently installing PremierOne CAD/RMS/CSR suite
- County Police, Fire, Sheriff, EMS plus 23 municipal law agencies
- Simulcast
- 75 MCC 7500 dispatch console positions including NICE Logging

Completion Date: May 2011

#### Customer Contact:

Wayne McBride  
Project Manager  
240-832-0715  
WMcBride@co.pg.md.us



**MOTOROLA**

Reference Sheet



## Las Vegas Metro Police Department

Radio Systems Bureau  
4591 W. Russell Road, Las Vegas, NV 89118

### Synopsis

After struggling for two years to make their Open Sky system work, Las Vegas contracted with Motorola to deliver a ASTRO 25 system. The system was implemented ahead of schedule, with the M3 Master Site shipped in September 2013, and has performed flawlessly since going live. The migration was accelerated to mid-project to allow the customer to begin using the more reliable platform sooner than originally expected.

- 700 / 800 MHz Frequency Band
- 31 Sites
- Simulcast
- Project 25
- TDMA enabled on 11 channels
- Trunked Voice Technology
- IV&D included for POP25
- MOSCAD GMC supporting environmental at all RF sites
- 5 Network Management Clients
- Dispatch Operations located at Metrocomm
- 25 MCC 7500 Dispatch Consoles replaced legacy non-Motorola consoles for primary talkgroups and Supervisors
- 59 MCC 7100 soft consoles connected to RNI for backup and training
- Dynamic Dual Mode for FDMA & TDMA interoperability
- 9-site, 12-channel 700 MHz simulcast system to cover Las Vegas Valley. Designed for 17dB in-building portable coverage
- 12-channel ASR site at Sunrise configured the same as simulcast cell to provide backup & redundancy for Las Vegas Valley
- 21 lower-density ASR sites throughout Clark County providing on-street coverage for 100 "Residential" Officers throughout the County
- Connected via new Cambium PTP810 loop backhaul
- ADP Encryption
- NICE Loggers for IP and Analog
- 5,000 APX Subscribers
- Coverage was designed to 95% reliability

Contract Amount: \$26M

Contract Date: June, 2013

Completion Date: December, 2014

#### Customer Contact:

Michael A. Barnbeck  
Director - Radio Systems Bureau  
Las Vegas Metro Police Dept.  
Office: (702) 828-3433  
M4371B@lvmpd.com



Reference Sheet





## Pierce County, Washington

Department of Emergency Management  
2501 South 35th St, Suite D, Tacoma, WA 98409-7405

### Synopsis

Wide area P25 TDMA Motorola system which replaces a Harris analog VHF network. Use of 700/800 MHz in metro areas and VHF for rural and interoperability purposes. Working with WSP, South Sound 911, City of Tacoma, and Pierce Transit for a seamlessly interoperable wide area Motorola network. Upgrading to Motorola MCC 7500 consoles and new Motorola APX subscriber radios.

### Motorola System Description

- 700/800 MHz and VHF Frequency Bands
- 17 Sites
- Simulcast and Conventional Networks
- Project 25 Phase 2 TDMA
- Population Served: 800,000
- Coverage Reliability: 97%
- Dispatch Integration: MCC 7500 Consoles
- 2,000 Subscriber Radios, including new APX series
- Integrated Voice and Data (IV&D)
- Over-the-air Programming (OTAP/POP25)
- Over-the-air Re-keying (OTAR)
- Ethernet re-keying of consoles (OTAR/OTEK/KMF)
- GPS/Outdoor location services (Mapping application not provided by Motorola).

Estimated Completion Date: July 2015

#### Customer Contact:

Tim Lenk  
Phone: 253-798-7011  
TLenk@co.pierce.wa.us



Reference Sheet

### 4.4.3 Red Cloud MR0715 Subcontractor References

Per 9.5 “System Installation”, item B, the County MERA has asked for a summary of our service shops, their experience and a list of five references for each. Motorola’s proposed local service shops include Red Cloud the system and subscriber installations and Day Wireless for on-site response.

#### EBRCSA 2006-2012

<b>System Name:</b>	East Bay Regional Communications System. (“EBRCSA”)
<b>System Overview:</b>	Regional P25 Digital Network, subscribed to by 33 cities over a two county area covering Alameda and Contra Costa Counties in Northern California. Red Cloud’s Technical Services Teams performed services in support of Motorola Solutions involving Master Site installation; RF Site installations, antenna tower antenna installations; dispatch center MCC7500 Console installations; APX Subscriber Radio Programming; APX mobile radio installations into Public Safety Vehicles of all types + motorcycles; Repair services.
<b>Location:</b>	Master Site located within Alameda County Sheriff EOC Dublin, CA; 36 sites covering two county area within Alameda & Contra Costa Counties.
<b>Contact:</b>	EBRCSA Director Tom McCarthy <a href="mailto:tmccarthy@acgov.org">tmccarthy@acgov.org</a> .
<b>Phone Number:</b>	510 225-5930

#### LIVERMORE-PLEASANTON REBANDING 2007-08

<b>System Name:</b>	Livermore-Pleasanton 800 MHz System Rebanding per FCC Mandate.
<b>System Overview:</b>	Regional 800 MHz Analog Public Safety Radio Network, subscribed to by 2 cities over the cities of Pleasanton and Livermore in Northern California. Red Cloud’s Technical Services Teams performed Rebanding services involving Master Site Reprogramming; RF Site equipment reprogramming and installation, antenna tower antenna re-installations; Subscriber Radio Programming; XTL mobile radio installations into Public Safety Vehicles of all types + motorcycles; Repair services; Feature Field Flash Upgrade of subscriber radios.
<b>Location:</b>	Master Site located at Doolan hilltop in Livermore, CA.
<b>Contact:</b>	Rhonda Bishop, City of Livermore Police <a href="mailto:rbishop@cityoflivermore.net">rbishop@cityoflivermore.net</a> .
<b>Phone Number:</b>	915 371-4921

#### SVRIA 2013-15

<b>System Name:</b>	Silicon Valley Regional Communications System. (“SVRIA”)
<b>System Overview:</b>	Regional P25 Digital Network, covering 18 cities throughout Santa Clara County in Northern California. Red Cloud’s Technical Services Teams performed services in support of Motorola Solutions involving Master Site installation; RF Site installations, dispatch center MCC7500 Console installations.
<b>Location:</b>	Master Site located; Dispatch Centers throughout Santa Clara County.
<b>Contact:</b>	SVRIA Director Heather Plamondon <a href="mailto:hplamondon@svria.org">hplamondon@svria.org</a> .
<b>Phone Number:</b>	(650) 269-9490

## CITY OF ROHNERT PARK PUBLIC SAFETY RADIO SYSTEM 2010-PRESENT

<b>System Name:</b>	City of Rohnert Park VHF Public Safety Radio System.
<b>System Overview:</b>	City-wide VHF Radio Network, VHF conventional, 2 channels, 4 site voting. Red Cloud's Technical Services Teams maintain current system under contract; Base Station installation and maintenance; Voting Site installation and maintenance; antenna tower antenna installations; dispatch center Console installations; Subscriber Radio Programming; Repair services.
<b>Location:</b>	System located at 500 City Center Drive   Rohnert Park, CA 94928.
<b>Contact:</b>	Police Commander Pat Strouse <a href="mailto:pstrouse@rpcity.org">pstrouse@rpcity.org</a> .
<b>Phone Number:</b>	707.584.2646

## CITIES OF OAKLAND & PIEDMONT PUBLIC SAFETY RADIO NETWORK CONVERSION TO EBRCSA 2015-16

<b>System Name:</b>	City of Oakland 800 MHZ P25 Digital Public Safety Radio System, covering the cities of Oakland and Piedmont, CA.
<b>System Overview:</b>	Conversion and cutover of existing 800 MHz Public Safety Radio System to EBRSCA. Red Cloud's Technical Services Teams performed services in support of Motorola Solutions involving RF Site installations, antenna tower antenna installations; 40+ dispatch center MCC7500 Console installations.
<b>Location:</b>	Master Site located within Alameda County Sheriff EOC Dublin, CA; Dispatch Centers throughout Oakland and Piedmont.
<b>Contact:</b>	Stephen Kaplan, City of Oakland Information Technology Department Project Manager/ Supervisor, Public Safety Support Services <a href="mailto:skaplan@oaklandnet.com">skaplan@oaklandnet.com</a> .
<b>Phone Number:</b>	510 615-5776



## 4.4.4 Day Wireless References

<b>Customer 1</b>	<b>One Work Place</b>
<b>Address of System:</b>	2500 De La Cruz Blvd. Santa Clara, CA 95050
<b>Description of System:</b>	Turnkey microwave installation performed by Day Wireless
	<ul style="list-style-type: none"> <li>- Siklu Etherhaul-2200FXODULEXT 80GHz Licensed</li> <li>- A site Rooftop with Non Pen roof mount and cabling through roof penetration</li> <li>- B site Roof mount requiring man lift and cabling through building</li> <li>- Planned by Day Wireless, and all IP &amp; config done by Day Wireless. 1GB throughput confirmed</li> </ul>
<b>Customer Contact:</b>	Francis Leong
<b>Customer Phone Number:</b>	408.718.3625

<b>Customer 2</b>	<b>Thumbtack</b>
<b>Address of System:</b>	360 9 <sup>th</sup> St. San Francisco, CA 94103
<b>Description of System:</b>	Turnkey microwave installation performed by Day Wireless
	<ul style="list-style-type: none"> <li>- Siklu Etherhaul-2200FXODULEXT 80GHz Licensed</li> <li>- A site Rooftop with Non Pen roof mount and cabling through roof penetration</li> <li>- B site Rooftop with Non Pen roof mount and cabling through roof penetration</li> <li>- Planned by Day Wireless, and all IP &amp; config done by Day Wireless. 1GB throughput confirmed</li> </ul>
<b>Customer Contact:</b>	Ryan Garner-Carpenter
<b>Customer Phone Number:</b>	415.323.4626

<b>Customer 3</b>	<b>City of Santa Rosa</b>
<b>Address of System:</b>	35 Stony Point Rd. Santa Rosa, CA 95401
<b>Description of System:</b>	<ul style="list-style-type: none"> <li>- Turnkey microwave installation performed by Day Wireless</li> <li>- Solectek unlicensed Microwave</li> <li>- A site Rooftop with Non Pen roof mount and cabling through roof penetration</li> <li>- B site Water tank requiring climbing certified staff from our office</li> <li>- Planned by Day Wireless, and all IP &amp; config done by Day Wireless. Throughput confirmed for customer equipment</li> </ul>
<b>Customer Contact:</b>	John Sorensen
<b>Customer Phone Number:</b>	707.543.3109

<b>Customer 4</b>	<b>Castaic Lake Water Agency</b>
<b>Address of System:</b>	27234 Bouquet Canyon Rd. Santa Clarita, CA 91350
<b>Description of System:</b>	Turnkey microwave installation performed by Day Wireless
	<ul style="list-style-type: none"> <li>- 80GHz, full duplex at 1 Gbps, BridgeWave Communications gear</li> </ul>
<b>Customer Contact:</b>	Jeff Herbert
<b>Customer Phone Number:</b>	661.297.1600 ext. 00241

<b>Customer 5</b>	<b>Fort Hunter Ligget</b>
<b>Address of System:</b>	Fort Hunter Ligget, 238 California Jolon, CA 93298
<b>Description of System:</b>	<ul style="list-style-type: none"> <li>- Turnkey two-way radio and dispatch console installation performed by Day Wireless, including shelter and tower work</li> <li>- One Motorola 7.11 Master Site</li> <li>- Three 5-channel GTR8000 RF sites</li> <li>- Five MCC7500 Dispatch Consoles at four locations</li> </ul>
<b>Customer Contact:</b>	Jennifer Johnson
<b>Customer Phone Number:</b>	703.325.3411