

RESOLUTION 2010-13

**A RESOLUTION TO AUTHORIZE THE CITY TO ENTER INTO
EQUIPMENT PURCHASE AGREEMENT WITH MOTOROLA
COF PURCHASE ORDER NUMBER PO2165**

WHEREAS, at the October 21,2009 the Budget and Finance Committee meeting and November 10, 2009 meeting the Board of Mayor and Aldermen November 10, 2009 received documentation and a presentation regarding the City's need for a upgraded digital dispatch equipment; and

WHEREAS, the Board of Mayor and Aldermen unanimously approved the lease/purchase of the EOC digital dispatch equipment; and

WHEREAS, at the December 8,2009 BOMA meeting in order to effectively fund the purchase of the equipment the Board of Mayor and Aldermen approved a lease agreement with SunTrust Financial; and

WHEREAS, a copy of the purchase agreement and contract with Motorola as attached COF Purchase Order Number PO2165

**NOW THEREFORE, BE IT RESOLVED, BY THE BOARD OF
MAYOR AND ALDERMEN OF THE CITY OF FRANKLIN, TENNESSEE
THAT:**

The city shall enter into a purchase contract with Motorola COF Purchase Order Number PO2165

Adopted: January 26, 2010

Attest:

John Schroer
Mayor

Eric Stuckey
City Administrator



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FRANKLIN
TENNESSEE

Requisition

Form No. 3

Request for authorization to execute a purchase, the total value of which is equal to or more than \$10,000

Request Date: November 13, 2009

Requisitioning Department: Police

Item Description: 5 IP (MCC7500) console positions and BDA completion, per Motorola proposal dated 08/21/09 and per State of TN SWC420 for the equipment and SWC3046 for the services

Basis for pricing: pricing established by previous City of Franklin competitive process (details, including date and description, attached); or
 pricing established by previous process of another governmental agency (details, including date and description, attached); or
 pricing established by another process (details, including date and description, attached).

Vendor: Motorola

Date of Pricing: 8/21/2009

Total Value of Purchase: \$753,000.00

Budget Amount: to be paid over multiple fiscal years, with payments incorporated into the Police operating budget

Budget Justification: for new police headquarters

General Ledger Account No.: 310-89530-42100

Intended method of payment: invoice to be paid by conventional check to be issued by Accounts Payable; or
 invoice to be paid by purchasing card¹ issued by City to:

Recommended for Approval: *[Signature]*
 (Authorized representative of requisitioning department)

Recommended for Approval: *[Signature]*
 (Purchasing Manager)

Authorized for Issuance: *[Signature]*
 (Assistant City Administrator or City Administrator)

¹ Please ask the Purchasing Office to adjust the single-transaction limit and, if necessary, the monthly credit limit on the identified card.



City of Franklin Purchasing Office
 P.O. Box 305
 Franklin TN 37065-0305
 Telephone: (615)550-6692
 Fax: (615)550-0079

Purchase Order

Purchase Order No.	PO2165
Date	11/13/2009

Vendor:	Ship To:	Bill To:
Motorola, Inc P.O. Box 404059 Atlanta GA 30384-4059	Franklin Police Department HQ 828 Columbia Ave. Franklin TN 37064	City of Franklin Accounts Payable P.O. Box 295 Franklin, TN 37065-0295 Telephone: (615)550-6686 Fax: (615)550-0079

^ Changed Since the Previous Revision

L/N	Item Number	Description	U/M	Ordered	Unit Price	Ext. Price									
01	DISPATCH SITE	Per BOMA 11/10/09 agenda item no. 33	Each	1	\$753,000.00	\$753,000.00									
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Manufacturer:</td> <td style="width: 33%;">Manufacturer's Item Number:</td> <td style="width: 33%;">Description:</td> </tr> <tr> <td>MOTOROLA</td> <td>5 IP (MCC7500)</td> <td>Console Positions</td> </tr> <tr> <td>MOTOROLA</td> <td>BDA COMPLETION</td> <td>BDA Completion</td> </tr> </table> <p>This P.O. is subject to the Terms and Conditions of the State of TN Contract SWC420 for the equipment and SWC3046 for the services. Pricing is per Motorola's proposal dated 08/21/09.</p>							Manufacturer:	Manufacturer's Item Number:	Description:	MOTOROLA	5 IP (MCC7500)	Console Positions	MOTOROLA	BDA COMPLETION	BDA Completion
Manufacturer:	Manufacturer's Item Number:	Description:													
MOTOROLA	5 IP (MCC7500)	Console Positions													
MOTOROLA	BDA COMPLETION	BDA Completion													
<p>Acceptance of this PO by Vendor indicates Vendor's acceptance of and agreement to abide by the City's current Standard Procurement Terms and Conditions and the Standard Payment Terms.</p>															

Brian Wilcox, Purchasing Manager

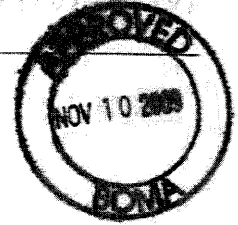
Freight	\$0.00
Order Total	\$753,000.00



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TENNESSEE

ITEM #33
BOMA 11/10/09

MEMORANDUM



October 15, 2009

TO: Board of Mayor and Aldermen

FROM: Eric Stuckey, City Administrator *ES*
Brad Wilson, Facilities and Project Manager

SUBJECT: Consideration for approval to lease or purchase 5 digital radio communication stations and 911 phone systems.

Purpose

The purpose of this memorandum is to provide the Board of Mayor and Aldermen (BOMA) with information to consider acquisition of digital dispatch equipment and a digital upgrade to the 911 phone system that relate to the current Police headquarters project.

Background

As discussed with the Board in August, the building program for the Police Headquarters did not include a full allowance for communications (call taking and dispatch services) and information technology. No funds were in the bid and no allowance of funds built into the project budget. The reasoning was that in two to three years technology and technology costs were likely to change. This led to a decision to delay funding of these items until later in the project either through the project budget or through operating capital funding. In August BOMA approved a series of change orders to fund needed information technology and communication components for the new facility. The dispatch and 911 phone system upgrades were not included in these changes, as staff wanted to review both costs and system needs.

Currently, the existing emergency communication dispatch stations and 911 phone system are analog systems. The age of existing equipment and the ongoing migration of technology to the digital technology necessitates that the City consider if implementation of new digital systems is appropriate at this time. As discussed with the Board in August, implementing the transition to digital equipment through the Police Headquarters project budget is not a realistic option.

Dispatch consoles. Currently, the Police Department has four dispatch work stations in operation along with a fifth console for a supervisor. The City has obtained pricing from Motorola, the provider of the City's existing 800 MHz digital radio system. System pricing is for five IP (MCC7500) Console Positions for a total purchase price of \$753,000. Attachment A contains the Motorola financing proposal and the system description. The vendor also provided three lease/purchase options:

	<u>Option One</u>	<u>Option Two</u>	<u>Option Three</u>
Lease Term	3 years	5 years	7 years
Payment Frequency	Annual	Annual	Annual
Bank Qualified Lease Rate	4.09%	4.19%	4.49%
Bank Payment	\$271,806.07	\$169,810.00	\$127,738.45

Payment Commencement *First payments due one year after contract execution.*



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911 Phone System upgrade. While the City moved to a state-of-the-art 800 MHZ digital radio system a few years ago, its 911 phone and dispatch systems have remained as analog-based systems. As a result, the systems must translate from analog to a digital signal. The proposed ATT system would be a Voice over Internet Protocol (VoIP) system. The resulting system would be a faster, more reliable system. The phone system upgrade has been priced with two options:

	<u>Option One</u>	<u>Option Two</u>
	<u>Rental</u>	<u>Lease/Purchase</u>
Term	Ongoing	5 years (\$1 purchase at the end of 5 years)
Upfront Payment	\$69,096	None
Monthly Payment	\$8,045	\$5,692.48**
Maintenance Fee	included in rental	\$4,339/monthly

** - The vendor has agreed to delay monthly payments on the lease/purchase options until July. Maintenance payments would need to start this fiscal year.

Back-up system could be provided. With the exception of the dispatch console in the Incident Command Vehicle, the City does not have a back-up for its dispatch center. The purchase of the new equipment would provide the opportunity to use the existing dispatch equipment as a back-up. The existing consoles could be moved to another site (likely a fire station) outside of the downtown area to provide a back-up site. This would provide redundancy to the system that currently does not exist.

Financial Impact

Moving forward with either a direct purchase or lease of the new equipment would eliminate the need for approximately \$209,000 included in the current Police Headquarters project budget for relocation of the existing systems including outside services to move, reinstall and replace any damaged equipment. Lease payments cited above would be incorporated into the Police operating budget.

Options

BOMA could approve or decline a lease/purchase arrangement for the new digital dispatch and 911 phone systems. Should the Board decline to acquire the new equipment, the existing analog equipment would be moved to the new Police Headquarters.

Recommendations

It is recommended that BOMA approve the acquisition of new digital dispatch consoles and 911 phone systems to be incorporated into the new Police Headquarters building. It is further recommended that this new equipment be acquired through a five or seven year lease purchase arrangement and such cost be incorporated into the Police operating budget beginning with fiscal year 2011.



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MEMORANDUM

Option #2: Conversion to digital emergency communications system.

Currently, the existing dispatch stations are analog systems. The age of existing equipment and the ongoing migration of technology to the digital technology may necessitate the purchase in the near future. Implementing the transition to digital equipment through the Police Headquarters project budget is not realistic option. However, there may be an opportunity to obtain this equipment through a lease or short term financing which could be repaid over the next three to five years. Staff acquired pricing to change from an analog phone system to a digital phone system and for eleven (11) stations the price to purchase is \$580,000 plus a monthly maintenance contract but the ability to lease is an option. We have spoken to ATT and they are working on adjusted pricing for a total base of five (5) stations up to eight (8). If it is decided to look at digital system, our current system could possibly be traded in or sold to another public safety department. This could partial offset some of these costs.

Radio systems are also a part of the process in going from a basic analog system to an IP-based system. Depending on the number of work stations converted, the cost could run from approximately \$750,000 to \$1.5 million. Motorola is currently pricing options for a range of five to eight stations. This upgrade would be building the infrastructure for the City of Franklin, installing microwave and fiber site links in order to send and receive radio communications and will also include an in-building distributed antenna system. As described above, staff will also be looking at leasing and financing options. Staff would like to develop these options further and, if practical, bring them back to BOMA for consideration.

Financial Impact

Project components identified above would be paid out of the project contingency budget. If approved, the budgeted amount of \$40,000 will not be removed unless needed for replacement of equipment. Attachment C provides an updated project budget report.

Options

The work described above (not including options #1 and #2) is necessary to operate communication and IT functions in the Police Headquarters. The options described are open for Board direction.

Recommendations:

It is recommended that BOMA approve the communications and IT purchases for the new Police Headquarters, a funding amount of \$501,278 (\$40,000 of which is an equipment replacement contingency). The additional work needed to bring TOC into the Police Headquarters is also recommended, funded at the base amount of \$122,521. It is further recommended that staff research options available to the City to transition the 911 system and emergency communication workstations from analog to digital technology outside of the project budget.

Attachment A:

Dispatch Console System Upgrade -
Financing Proposal and System
Description



Date: October 15, 2009

Financing proposal for: Franklin Tenn

Communications System Financing Proposal

Motorola Credit Corporation is pleased to submit the following proposal for the financing of your Motorola Communications equipment in accordance with the terms and conditions outlined below:

Transaction Type: Municipal Lease-Purchase Agreement

Lessor: Motorola, Inc. (or its Assignee)

Lessee: Franklin TN

Amount: \$753,000.00

Down Payment: \$0.00

Balance to Finance: \$753,000.00

Equipment: As per the Motorola equipment proposal.

Title: Title to the equipment will vest with the Lessee.

Insurance: Lessee will be responsible to insure the equipment as outlined in the lease contract.

Taxes: Personal property, sales, leasing, use, stamp, or other taxes are for the account of the Lessee.

	<u>Option One</u>	<u>Option Two</u>	<u>Option Three</u>
Lease Term:	Three Years	Five Years	Seven Years
Payment Frequency:	Annual	Annual	Annual
Payment Structure:	Arrears	Arrears	Arrears
Lease Rate:	4.06%	4.14%	4.49%
Lease Factor:	0.360964	0.225511	0.169639
Lease Payment:	\$271,806.07	\$169,810.00	\$127,738.45

Payment Commencement: First payment due one year after contract execution, First payment due one year after contract execution, First payment due one year after contract execution.

Expiration: This above lease rates and factors are valid for all leases commenced by 11/8/2009

Qualifications: Receipt of a properly executed documentation package.

Lessee qualifies as a political subdivision or agency of the State as defined in the Internal Revenue Code of 1986. The interest portion of the Lease Payments shall be excludable from the Lessor's gross income pursuant to Section 103 of the Internal Revenue Code.

Receipt of a copy of the last years audited financial statements and current year's budget from the Lessee.

This proposal should not be construed as a commitment to finance. It is subject to final Motorola credit committee approval. This quote is based on the general level of interest rates, primarily U.S. Treasury Bills of like term maturity. Any movement in those rates in excess of 10 basis points will result in the revision of this quote.

LESSEE CERTIFIES THAT IT HAS DESIGNATED THIS LEASE AS A QUALIFIED TAX-EXEMPT OBLIGATION IN ACCORDANCE WITH SECTION 265(b)(9) OF THE CODE. THAT IT HAS NOT DESIGNATED MORE THAN \$10,000,000 OF ITS OBLIGATIONS AS QUALIFIED TAX-EXEMPT OBLIGATIONS IN ACCORDANCE

Documentation: Municipal Equipment Lease Purchase Agreement
 Opinion of Counsel
 Schedule A / Equipment List
 Schedule B / Amortization Schedule
 8038G
 UCC-1
 Certificate of Incumbency
 Statement of Essential Use/Source of Funds
 Evidence of Insurance or Statement of Self Insurance
 Resolution from governing body authorizing the execution of the Lease

Please feel free to contact me if there are any questions or if an alternate structuring is required.

Regards,
Bill Stancik
Motorola Customer Financing
847-538-4531

Municipal Lease-Purchase Agreement

"The Affordability Advantage" At Motorola Customer Financing, we specialize in designing funding programs specifically structured to meet our customer's cash flow and budget requirements.

Program Elements

- Financing contracts can be match funded or advance funded depending on a customer's financial objectives:
 - ✓ Minimize interest rate risk.
 - ✓ Minimize total project cash flow.
 - ✓ Achieve annual budget.
- Payment frequency can be tailored to match the availability of customer fundings.
- Although the underlying financing structure typically incorporates a fixed rate, variable rates, graduated payment programs, and deferred payment plans can be offered to maximize a customer's alternatives.
- Construction period financing is available to accommodate the timing of milestone implementation and project duration.
- The lease obligation can be paid off during the financing period, free from any penalties.
- Every payment builds equity towards ownership.
- Title to the equipment transfers upon equipment acceptance.
- Unlike most bonds, a reserve/contingency fund is not required, thereby making the lease purchase highly competitive with bonds.
- Due to a non-appropriation clause, payments are usually classified as expense rather than debt.

Financing Advantages

- Because interest payments from a qualifying government entity are exempt from federal income taxes, Motorola can share this benefit by offering lower interest rates.
- One-hundred percent (100%) of a project's acquisition cost can be financed.
- Facilitates the ease of doing business by offering the customer comprehensive single vendor solution.
- Accelerates the implementation of operational objectives allowing the entire system to be acquired today.
- Unlike general obligation bonds, the municipal lease purchase agreement may not require the need for voter approval, thereby shortening the acquisition cycle.
- Eliminates costly bond counsel, underwriting, printing, and other up front fees normally associated with issuing general obligation bonds.
- Provides for an additional source of financing by leaving existing credit lines and bond issuance capabilities undisturbed.
- Stretches limited public sector investment dollars by requiring future taxpayers to pay for the use of equipment as it is being used versus paying for the entire acquisition today.
- Spreads the cost over a shorter period than bond financing to more closely match the equipment's useful life.
- Can expedite the acquisition process for future add-on purchases.
- Acts as an inflation hedge against future product price and interest rate increases.
- May streamline asset administration by offering customized billing tailored to track inventory by radio unit, location, and department.

Please feel free to contact Paul Mecaskey (847) 538-3707 or Bill Stancik (847) 538-4531 of Motorola Customer Financing to discuss these alternatives.



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intelligence everywhere™



Section 2 - System Description

2.1 Introduction

Motorola is pleased to provide the City of Franklin, TN with a proposal for a new MCC7500 dispatch site with redundant fiber site links and an in-building distributed antenna system.

2.2 Project Overview

This proposal is comprised of a five (5) operator position MCC7500 dispatch site located at the City of Franklin's new Police Headquarters, an in-building distributed antenna system for the new Police Headquarters, and redundant fiber optic site links between the new dispatch site and the master site at City Hall. This section describes in further detail the Motorola proposed site equipment.

Diagrams for this system can be seen in the next section of this proposal.

2.2.1 MCC 7500 Dispatch Site

The Motorola MCC 7500 IP Dispatch Console is Motorola's mission critical IP high-tier radio dispatch console system. MCC 7500 operator positions integrate seamlessly through the IP protocols of the trunking system's transport network. An MCC7500 IP Console dispatch site will be located at the new Police Headquarters.

2.2.1.1 Police Headquarters Dispatch Center

Motorola is proposing a new dispatch center that will be located at the City of Franklin's new Police Headquarters. This center will have five (5) operator positions

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City of Franklin, TN
MCC 7500 and Microwave
System Description
2/18/09

as well as five (5) backup XTL2500 control stations, analog and IP logging recorders, an Archiving Information Server (AIS), playback workstation, and analog conventional channels.

2.2.1.1.1 MCC 7500 Dispatch Consoles

The MCC7500 dispatch console is based on the Elite graphical user interface (GUI) that is used on the CENTRACOM Gold Series product. This allows dispatch console users who are familiar with the Elite to easily learn how to use Motorola MCC 7500 dispatch consoles.

The Motorola MCC 7500 product provides new features. Some of the more important new features include:

- ◆ Seamless integration with Dimetra IP, ASTRO[®]25 and ASTRO[®]25 SE trunking systems:
 - Supports the IP protocols of the trunking system's transport network, so MEGEs and AEBs are no longer needed to interface the console sub-system to the rest of the trunking system.
 - Encryption and decryption in the dispatch consoles which allows true end-to-end encryption in the radio system.
 - Configuration of the console sub-system via the radio system's centralized configuration sub-system so the customer has a single point for configuring the radio system. The configuration sub-system may be accessed from multiple remote locations so customers can still have convenient access while enjoying the benefits of centralized configuration.
 - Management of the console sub-system via the radio system's centralized network management sub-system so the customer has a single point for managing faults, accounting, performance and security of the radio system. The network management sub-system may be accessed from multiple remote locations so customers can still have convenient access while enjoying the benefits of centralized management.
- ◆ Centralized and/or distributed logging of conventional and trunked radio audio, associated radio call information and certain radio system events.
- ◆ Participation in the radio system's agency partitioning functionality.
- ◆ Improved hardware interface for connecting 3rd party dispatch consoles. The hardware portion of the interface is smaller and has inputs and outputs that are more universal in nature.
- ◆ Higher capacities in numerous areas (64,000 talkgroups, thousands of logging "tracks").

Motorola will provide the following equipment for each console position at Police Headquarters:

- ◆ One (1) Motorola-certified Personal Computer
- ◆ One (1) Voice Card installed inside the computer

City of Franklin, TN
MCC 7500 Dispatch Site
System Description
09/02/2009

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- ◆ One (1) Secure Card installed inside the computer
- ◆ One (1) General Purpose Input/Output Module (GPIOM)
- ◆ Two (2) Desktop Speakers
- ◆ Two (2) Headset Jacks
- ◆ One (1) Desktop Microphone
- ◆ One (1) Footswitch
- ◆ One (1) Instant Recall Recorder

The GPIOM connects to the voice card and performs the digital to analog and analog to digital conversions for all analog audio flowing into or out of the dispatch console. It also provides the connections for the following items.

- ◆ Speakers
- ◆ Headset Jacks
- ◆ Microphone
- ◆ Footswitch
- ◆ Local Logging Recorder
- ◆ 911 Telephone Headset
- ◆ Instant Recall Recorder for Radio

Five (5) XTL2500 control stations as well as a control station combiner and the necessary antenna and line per control station will be provided as backup to the dispatch consoles. The control stations will be located at each op position.

2.2.1.1.2 NICE Logging

Motorola is providing recording solutions for radio and telephony audio. Motorola is proposing following equipment for recording at Police Headquarters:

- ◆ One (1) NiceLog 30 Call IP Logging Recorder
- ◆ One (1) Archiving Information Server (AIS)
- ◆ One (1) Playback Workstation
- ◆ One (1) 16 Channel NiceCall Focus III Logging Recorder

The Archiving Interface Server (AIS) provides flexible, high-quality archiving services for audio & data associated with various types of calls and various events associated with radio resources. The AIS is a server that allows an IP-based logging recorder to "log on" to the radio system and request that talkgroup and conventional channel audio be directed to it for recording. Once configured by the logging recorder, the AIS provides the audio and any information associated with the call (PTT ID, Alias, Type of Call, etc.) to the recorder.

NICE integration is being provided to enable both IP and telephony audio to be logged. Audio can be replayed at the playback workstation.



2.2.1.1.3 Conventional Channel Gateway and Conventional Site Controller

Conventional channels are much more integrated into the trunking system than in previous radio systems. The zone controller manages conventional channels in a manner similar to how it manages trunked talkgroups.

The physical interface to the analog conventional stations also changes from previous radio systems. An S2500 router fitted with a conventional IP interface kit is used to interface analog conventional stations to the radio system infrastructure. The portion of the router hardware and software that support the conventional stations is called the Conventional Channel Gateway (CCGW).

Using routers to act as interfaces to conventional stations provides two key benefits:

- ◆ It allows the conventional audio to use the same transport network as the trunked audio
- ◆ It reduces the number of "boxes" in the radio system

Up to four analog conventional stations may be connected to a CCGW. If the number of stations at a site exceeds the capacity of the CCGW, additional CCGWs can be added to support those stations.

A "local operation" feature is supported which allows the Motorola MCC 7500 dispatch consoles to access conventional channels located at the console site even if the link to the zone controller is lost. This requires the use of a conventional site controller at the console site.

Any archiving interface servers located at the console site with the conventional site controller will also continue to record calls on local conventional channels when the dispatch consoles go into "local operation."

The City of Franklin currently has ten (10) conventional channels in use. The following equipment will be provided for the local conventional channels at Police Headquarters:

- ◆ One (1) Conventional Site Controller
- ◆ Three (3) Conventional Channel Gateways (CCGW)
- ◆ Three (3) CDM1250 VHF Control Stations
- ◆ Seven (7) CDM1250 UHF Control Stations

Motorola will also provide the necessary antennas, line, control station combiners, and connectors needed for the conventional control stations.



2.2.1.1.4 Additional Dispatch Center Details

In addition to the new benefits described above, the MCC 7500 dispatch console also provides the following features:

- ◆ **Agency Partitioning** – Allows multiple agencies to use a common system while maintaining control over their console resources.
- ◆ **Centralized Fault Management** – Provides robust fault management of the console sub-system via FullVision.
- ◆ **Trunking Talk Group/Announcement Group Call** – Allows the dispatch console user to participate in group calls with other trunking system users. A Trunking Talk Group Call is a method for communicating with a specific set of users on a trunked radio system. Users will only hear the audio associated with talk groups with which they are currently affiliated. A Trunking Announcement Group Call is a method for communicating with multiple trunking talk groups simultaneously. An announcement group is composed of multiple talk groups that have been grouped together.
- ◆ **Trunking Emergency Call** – Allows the dispatch console user to receive and initiate Emergency Calls. Emergency Calls are high priority voice transmissions initiated by radios or dispatch consoles to communicate with each other in critical situations. Trunking Emergency Calls initiated by dispatch consoles reserve a voice channel for the duration of an emergency.
- ◆ **Trunking Emergency Alarm** – Allows the dispatch console user to receive Emergency Alarms from radio units. When an Emergency Alarm is received by a dispatch console, typically an audible indication, such as alarm tones, are sounded. A visual indication is also typically displayed to direct a dispatch console user's attention to the specific resource on the dispatch console.
- ◆ **Trunking Call Alert** – Allows the dispatch console user to receive and initiate Call Alerts. The Call Alert feature lets a dispatch console or radio leave a "page" at an unattended radio or dispatch console. Upon returning to the radio or dispatch console, the user knows who called. Additionally, a Call Alert can be used to trigger an activity. For instance, a Call Alert may cause a vehicle's horn to sound and its lights to flash.
- ◆ **Permanent Patch** – Permanent Patch is supported by a combination of the Standard Patch feature, the Patch Auto-Start feature, and the Patch Auto-Restore After Resource Interruption feature. The Patch Auto-Start feature allows a dispatch console to automatically start up pre-determined patches after a power cycle or reboot on the dispatch console computer. The Patch Auto-Restore After Resource Interruption feature allows the console position to provide as much patch functionality as possible during and after service interruptions in the radio system.



- **Third Party Paging Encoder Port** – Allows a third party tone paging encoder to be connected to a dispatch console for use on conventional channels.
- **Auxiliary Inputs and Outputs** – Provides relay outputs and input buffers that may be used to monitor and control external equipment.

2.2.2 Fiber Links

Motorola is proposing the use of the customer's existing fiber optic network to connect the new MCC7500 dispatch site to the master site at City Hall. Two (2) point-to-point fiber links will be provided by the customer for redundant site links.

In order to connect through the city fiber, one (1) T1 to fiber multiplexer will be provided by Motorola at each end of the point-to-point fiber link. Two fiber modules will be provided per multiplexer for redundant site links. Motorola will also provide a T1 module with up to 4 T1 connections per module to interface to the equipment at both sites.

2.2.3 In-Building Distribution Antenna System

Motorola has partnered with GPD Telecom, Inc. to provide an in-building distribution antenna system for Police Headquarters. This will be a turnkey system that will provide 95% portable in-building coverage. More information on this design can be found in Section 4.

Deleted: the In-Building Distribution Antenna System

2.3 Assumptions

Motorola has made the following assumptions in this quotation:

- All sites will meet Motorola's R56 2005 Standards for Communications sites
- Adequate space exists in existing buildings to support footprint of installed equipment
- Customer will supply sufficient surge suppressed power to handle the proposed equipment
- All furniture will be provided by the customer
- The environmental conditions inside the customer-supplied shelter must meet Motorola's requirements and equipment specifications.
- Customer will be responsible for providing accessibility to all sites during the installation
- Customer will provide necessary tower space
- Customer will provide the necessary point-to-point fiber links as well as termination of the fiber where needed



2.3.1 Spares

Spares are being provided in this proposal as an option. Motorola highly recommends purchasing spares for any mission critical equipment since any downtime due to lack of spares can be costly. Should the customer decide against purchasing spares, all spares needed in the future will be the responsibility of the customer.

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City of Franklin, TN
MCC 7500 Dispatch Site
System Description
09/02/2009

