

City of Asheville, North Carolina



REQUEST FOR PROPOSAL #

RFP 943-15

PUBLIC SAFETY RADIO SYSTEM

Release Date: September 2, 2014

Proposal Due Date: November 21, 2014

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Attachment 1: City of Asheville Map & Boundaries

Attachment 2: Proposal Pricing Sheet

Attachment 3: Site Audit Reports

1.0 INFORMATION FOR VENDORS

1.1 Notice

The City of Asheville, NC (the "City") is requesting sealed proposals, per North Carolina General Statutes § 143-129.8 Purchase of Information Technology Goods and Services, from qualified firms to provide equipment and services for a P25, trunked, simulcast, 800 MHz public safety radio system.

The City of Asheville is committed to maintaining fair and open competition. Every effort is made to maintain the highest level of ethical conduct in every aspect of the procurement process. Qualification and selection of vendors is based on those vendors who share the same high standards of ethical conduct.

The City requests proposals for the detailed design and implementation of an integrated system on a "turnkey" basis. This turnkey system shall include all hardware, software, installation, system design, warranty and maintenance, testing, training and documentation and all costs associated with providing a fully-functional, turnkey communications system as described in this Request for Proposals ("RFP").

The terms and conditions specified in this document will apply to the RFP as a whole, including all options addressed by the RFP. Only those vendors fully capable of complying with the terms and conditions stated herein will be considered qualified for an award and subsequent contract.

It is the intention of the City of Asheville to execute a final contract with the vendor whose proposal is deemed most advantageous in accordance with the evaluation criteria specified in this RFP. The City may conduct post-proposal discussions with any or all vendors deemed to be reasonably qualified for award. "Post-Proposal discussions" include, but are not limited to: requests for additional information, interviews, requests for proposal modifications or revisions and requests for "best-and-final" offers. The City of Asheville may reject any part of any, or all, proposals.

1.2 Background Information

The City of Asheville, North Carolina currently operates a Motorola Type II Smartnet/Smartzone hybrid digital trunked radio system. The radio system infrastructure consists of seven 800 MHz frequencies at each of three simulcast repeater sites. The system was initially installed as a multicast configuration and upgraded to simulcast in 2007. One site was relocated in 2012 to provide better in-building coverage in downtown Asheville. The primary system control site is located at the Municipal

Building at 100 Court Plaza. System controllers, comparators, and console electronics are located in a side room attached to the backup dispatch center, which functions as the backup dispatch facility for both the City and Buncombe County.

The primary dispatch facility for the City of Asheville and Buncombe County is the Buncombe County Emergency Communications Center at 164 Erwin Hills Road. City of Asheville Telecommunicators perform dispatching functions for the Asheville Police Department ("APD") and Buncombe County Telecommunicators perform dispatching functions for the Asheville Fire Department ("AFD"). A total of six Motorola Gold Elite consoles are utilized for APD and AFD operations at the primary dispatch center. Three additional Motorola Gold Elite console positions are available at the backup dispatch center. The primary Console Electronics Bank ("CEB") remains at the Municipal Building with a remote CEB at the County Emergency Communications Center. The sites and dispatch centers are interconnected through a combination of microwave and leased T1 circuits.

The radio system infrastructure and console equipment is approaching the end of its useful life and will be replaced under this procurement. Existing voice recording and fire station alerting systems are also at the end of their useful lives and are included herein as optional components. Site interconnection circuits will be upgraded and/or replaced by the City or under separate procurement.

The existing user radios are comprised of various Motorola XTS, XTL, and APX series units. These radios are equipped with P25 trunking features. Any necessary user equipment upgrades or replacements will be addressed as a separate procurement.

1.3 Definition Of Terms

"RFP" shall refer to this Request for Proposals. "Proposal" shall mean a written offer to provide the equipment and services in accordance with requirements specified herein.

"Proposer", "Vendor", or "Contractor" shall mean a person, firm or corporation who submits a Proposal to provide equipment, material, and/or services necessary in the performance of the requirements specified herein.

"City", "Asheville", "Purchaser", or "Owner" shall refer to the City of Asheville, North Carolina.

"System" shall refer to an integrated collection of equipment, hardware, and software that is fully-functional and capable of delivering the performance and features required.

“Furnish”, “provide”, “propose”, or “offer” shall mean to supply, equip, and deliver the specified equipment, material and/or services to the Purchaser.

“Must”, “shall”, “will”, “is required”, and “are required” are terms that identify a mandatory item or factor. Failure to comply with a mandatory item or factor may result in the elimination of the Vendor’s Proposal from future consideration.

“Agreement” or “Contract” shall refer to the PUBLIC SAFETY RADIO SYSTEM purchase contract that will be negotiated with the selected Vendor per §1.13.

1.4 Turnkey Approach

The desired proposal is one in which the vendor delivers, installs, and configures specified equipment and provides training and documentation. This RFP specifies equipment and performance standards. It is the vendor’s responsibility to determine the specific hardware, software, accessories, and services required to deliver a fully-functional system. The City will not issue any change orders based on the fact that a detail was omitted from the Vendor’s proposal.

1.5 RFP Requirements

The City views this RFP as the framework to be used by the Vendor in preparing and submitting the proposal, and as an integral part of the final contractual agreement to be negotiated with the Vendor. It is important for the Vendor to become familiar with the paragraph items within this section, as they will prevail in the event of any discrepancies or differences between project-related or contractual documents.

The Vendor must submit (1) original and two (2) hardcopies along with one electronic copy in PDF format on CD ROM of their response to the RFP. All responses must be complete and accurate. If the proposal contains confidential information as defined in §1.5.7, the Vendor shall also submit one redacted electronic copy of the proposal in PDF format with confidential information removed.

1.5.1 Acceptance of General Requirements

The Vendor must accept the mandatory requirements by paragraph number contained specifically within this section in the letter of transmittal. Should a Vendor object to any of the requirements as contained herein, the Vendor may propose specific language that it believes

would be acceptable to the City. Acceptance of alternative language is solely at the City's discretion.

Vendors should be aware that the contents of the successful Proposal will become a part of the subsequent contractual documents. Failure of the Vendor to accept this obligation may result in the cancellation of any award. Any damages occurring to the City as a result of the Vendor's failure to contract may be recovered from the Vendor.

1.5.2 Minority Business Outreach – Compliance Guidelines

The City of Asheville has adopted a Minority Business Outreach Plan to encourage participation by women and minority businesses in the public bidding process. The purpose of this outreach effort is to increase the likelihood of success in the award of contracts. Proposers are hereby notified that this RFP is subject to the provisions of this Outreach Plan. Questions regarding the Minority Business Outreach Plan may be directed to, Brenda Mills, Economic Development Specialist, City of Asheville, Post Office Box 7148, Asheville, NC 28802-7148 or by phone at (828) 259-8050 or by e-mail at minoritybusiness@ashevillenc.gov or bmills@ashevillenc.gov. Proposers can access a listing of certified minority firms at either <https://www.ips.state.nc.us/Vendor/SearchVendor.aspx> (State of North Carolina's VendorLink search) or <http://www.doa.state.nc.us/hub> (Link for Office of Historically Underutilized Businesses to search for HUB vendors directly). It is the policy of the City to (1) provide minorities an equal opportunity to participate in all aspects of its contracting and procurement programs and (2) to prohibit any and all discrimination against persons or businesses in pursuit of these opportunities. Proposers shall provide a statement documenting their outreach efforts and indicate any minority and/or women firms included as subcontractors.

1.5.3 RFP Notice Requirements

A notice of this RFP will be published on the City's website. The City's website shall be the official location for all documents related to this RFP. It shall be the proposer's responsibility to download all proposal documents, addenda, etc. from this site:

www.ashevillenc.gov/rfp/

A notice of this RFP will also be published on:

<https://www.ips.state.nc.us/ips/DeptBids.aspx>

1.5.4 RFP Procedural & Content Questions

Any vendor requiring further clarification of the RFP procedure contained herein should submit specific questions, in writing, to:

Jeff Reble, Senior Project Manager
P.O. Box 7148
Asheville, NC 28802
jreble@ashevillenc.gov

During the review of the RFP and preparation of the Proposal, certain errors, omissions or ambiguities may be discovered. Any explanation, clarification, or interpretation desired by a vendor regarding any part of this RFP must be requested in writing at least seven (7) days prior to the published submission deadline, as referenced in this RFP or addenda. Interpretations, corrections or changes to the RFP made in any other manner are not binding, and vendors shall not rely upon such interpretations, corrections or changes. Oral explanations or instructions given before the award of the Contract are not binding. The attempt to question other City staff or representatives, verbally or otherwise, may result in the Vendor's disqualification.

Requests for explanations or clarifications may be submitted to the City's Radio System Project Manager, Jeff Reble at jreble@ashevillenc.gov. The email must clearly identify the RFP by title.

1.5.5 RFP Addenda

Any interpretations, corrections, or changes to the RFP will be made by addendum via the City of Asheville website. Sole issuing authority of addendum shall be vested in the City's Radio System Project Manager, Jeff Reble. Addenda will be provided to all vendors who are known to have received this RFP. Only information supplied by the City, in writing, or in this RFP should be used in the preparation of Proposals.

1.5.6 Deadline for Proposals

Proposals must be submitted in a sealed package or container marked "**PUBLIC SAFETY RADIO SYSTEM**" along with the Vendor's name and address. Facsimile transmittals or offers communicated by telephone will not be accepted or considered. Proposals that are not submitted in a sealed package or container will not be considered. Proposals will be received until 4:00pm local time on November 21, 2014. The Vendor can mail or deliver the Proposal to the following address:

City of Asheville IT Services Department
Attn: Jeff Reble, Radio System Project Manager
70 Court Plaza
Third Floor
Asheville, NC 28801

The City will record and time-stamp receipt of the Proposal. The Vendor is responsible for the means of delivering the proposal documents to the location listed above on time. Delays due to any instrument used to transmit the Proposal, including delay occasioned by the Vendor's or the City's internal mailing system will be the responsibility of the Vendor. The Proposal must be completed and delivered in time to avoid disqualification. The City's time clock is the official clock for determining whether proposals are submitted timely. Late proposals will not be accepted under any circumstances. Proposals may not be delivered via facsimile or e-mail.

1.5.7 Disclosure of Proposal Contents

North Carolina statutes require that proposals are handled and utilized in a manner that avoids disclosure of the contents to competing vendors and keeps the proposal contents confidential during evaluations and contract negotiations. City staff participating in the evaluation process will certify their concurrence with the confidentiality policy through an employee agreement. The Proposer understands that any material supplied to the City may be subject to public disclosure under the North Carolina Public Records Law after award of a contract per §1.13. Trade secrets and confidential information in proposals are not open for public inspection or disclosure if such information is clearly identified and contained on a separate page in the proposal. This identification shall be performed by individually marking each relevant page with the words "Proprietary Information". Per North Carolina statutes, pricing information for goods or services is not considered confidential information.

If the Proposer fails to identify proprietary information, they agree that by submission of their proposal any and all unmarked pages shall be deemed non-proprietary and made available upon public request. Any information, including materials, drawings, designs, documentation, and other property or data disclosed to the Proposer shall not be used, reproduced, appropriated, or otherwise disseminated to anyone other than the City of Asheville, except as required by law.

1.5.8 Signing of Proposals

Proposals must show the full firm name and address of the Vendor, and be manually signed. Failure to do so will disqualify the Proposal. Person signing the Proposal must show title or AUTHORITY TO BIND THE FIRM IN A CONTRACT. The submission and signature of a proposal will indicate the intention of the Vendor to adhere to the provisions in this RFP.

Proposals which are signed for a partnership must be signed in the firm's name by at least one partner of the firm or by an attorney-in-fact. If signed by an attorney-in-fact, there should be attached to the Proposal, a Power of Attorney evidencing authority to sign Proposals, dated the same date as the Proposal, and executed in accordance with legal requirements of the firm.

Proposals which are signed for a corporation must have the correct corporate name thereon and signature of the authorized company official. The title of the office held by the person signing for the corporation must appear below the signature of the officer.

Proposals which are signed by an individual doing business under a firm name must be signed in the name of the individual doing business under the proper firm name.

1.5.9 Cost of Proposal

This RFP does not commit the City to pay any costs incurred by any Vendor in preparation and/or submission of a Proposal, or for procuring or contracting for the items to be furnished under this RFP. All costs directly or indirectly related to responding to this RFP, including all costs incurred in providing supplementary documentation or presentation which may be required by the City will be borne by the Vendor.

Each vendor will be responsible for all costs incurred in preparing or responding to this RFP. The Vendor agrees to bear all risks for loss, injury, or destruction of hardware, software or goods and materials (ordered or supplied as the result of the eventual Contract) which might occur prior to delivery to the City; and such loss, injury, or destruction shall not release the Vendor from any obligations under this RFP or any resulting Contract.

1.5.10 Rights to Proposal and Contractual Material

All reports, charts, schedules, or other appended documentation to any proposal, content of basic proposal, or contracts and any responses, inquiries, correspondence, and related material submitted by the Vendor shall become property of the City of Asheville upon receipt.

1.5.11 Use of Logo

City of Asheville Logos and Images (hereinafter "Logo") are registered trademarks and the City of Asheville is the owner of all rights to the Logo. Unauthorized use of the Logo is strictly prohibited.

1.5.12 Disqualification or Rejection of Proposals

Vendors may be disqualified for any of the following reasons:

1. There is reason to believe that collusion exists among the vendors.
2. The Vendor is involved in any litigation against the City.
3. The Vendor is in arrears on an existing contract or has defaulted on a previous contract with the City.
4. The Vendor lacks financial stability.
5. The Vendor has failed to perform under previous or present contracts with the City.
6. Unsatisfactory outcome of security and/or background investigations.
7. The Vendor failed to use the forms attached to this RFP.
8. The Vendor failed to adhere to one or more of the provisions established in this RFP.
9. The Vendor failed to submit its Proposal in the format specified herein.
10. If, in the opinion of the City, a proposal contains false or misleading statements.
11. Any attempt by the Vendor to negotiate or give information concerning the contents of its Proposal to the City or its representatives other than as officially requested herein.
12. If it is determined by the City that gratuities in the form of entertainment, gifts, or otherwise, were offered or given by the Vendor, or any agent or representative of the Vendor, to any officer or employee of the City with a view toward securing or amending, or the making of any determinations with respect to the RFP or Contract.

1.5.13 Conflict of Interest

Vendors must ensure no conflict of interest exists between it and anyone associated with the City of Asheville. No public official shall have interest in this Contract. Prior to submission of any proposal, each vendor must file a disclosure of no conflict of interest, attested to by its Corporate Attorney. Vendors are obligated to provide updated information concerning the disclosure of interests, as warranted, throughout the time the proposals are being considered.

1.5.14 Rejection of Proposals

A proposal may be rejected if it shows any alteration of words or figures, additions not called for, incomplete offerings, erasures, or irregularities of any kind, or contains any unbalanced values. Proposals tendered or delivered after the official time designated for receipt of the proposals shall not be considered.

1.5.15 Right to Waive Irregularities

Proposals will be considered as being “irregular” if they show any omission, alterations of form, additions, or conditions not called for, or irregularities of any kind.

The City reserves the right to waive minor irregularities in proposals. This right is at the sole discretion of the City of Asheville.

1.5.16 Withdrawal of Proposal

A Vendor's Proposal may be withdrawn by a duly authorized representative of the Vendor at any time prior to the proposal submission deadline, upon presentation of acceptable identification.

1.5.17 Amending of Proposals

A Vendor may submit an amended proposal before the deadline for receipt of proposals. Such amended proposals must be complete replacements of a previously submitted proposal and must be clearly identified as such in the transmittal letter. The City will not merge, collate, or assemble proposal materials.

1.5.18 Proposal Offer Firm

Responses to this RFP, including pricing information, will be considered firm for 180 days after the latter of: 1.) the due date for receipt of proposals; or 2.) the date of receipt of the Vendor's last, best-and-final offer is submitted.

1.5.19 Exceptions to RFP Specifications

Although the specifications in the following sections represent the anticipated needs of the City of Asheville, there may be instances in which it is in the City's interest to permit exceptions to the specifications and accept alternatives.

It is important that the Vendor make clear where exceptions are taken to the specifications and how the Vendor will provide alternatives. Therefore, exceptions, conditions, or qualifications to the provisions of the specifications must be clearly identified as such together with reasons for taking exceptions, and inserted in the Proposal at this point. The Vendor should explain the benefit of the exception and how the proposed alternative meets the intention of the original specification. If the Vendor does not make clear that an exception is being taken, this will be deemed to mean that the Proposal is responding to, and will meet, the specification as written.

1.5.20 Consideration of Proposals

Discussions may be conducted with responsible vendors capable of being selected for the award for the purpose of clarification. Until award of the Contract is made by the City, the right will be reserved to reject any or all proposals, to re-advertise for new proposals, or to proceed with the work in any manner as may be considered in the best interest of the City.

1.5.21 Discovery

The City may elect to conduct any of the following additional activities with any responsible vendor:

1. Vendor equipment and products demonstrations
2. Reference checking
3. Vendor-client site visits

1.5.22 RFP Termination

The City reserves the right, at its sole and unqualified discretion, to cancel this RFP at any time. The City reserves the right to reject any or all proposals submitted in response to this RFP.

1.5.23 Security Bond

All vendors shall make payable to the City of Asheville, a security bond (i.e. bid bond) in an amount equal to 5% of the total proposal price of all hardware, software, and services to be provided under the Contract. The security bond shall be issued by a surety authorized to do business in the State of North Carolina. No cash, checks, certified check, cashier's check or other forms of payment will be accepted. The successful Vendor's bond will be retained until the Contract has been executed and the Vendor has furnished the required payment, performance, and maintenance bonds. The City reserves the right to retain all other vendors'

security bonds up to 180 days from proposal receipt deadline or until the Contract is executed, whichever is earlier. If a vendor should refuse to enter into a contract, the City will redeem such vendor's security bond.

1.5.24 Risk of Loss

The Vendor agrees to bear all risks of loss, injury, or destruction of hardware, software or goods and materials (ordered or supplied as the result of the eventual Contract) which might occur prior to delivery to the City; and such loss, injury, or destruction will not release the Vendor from any obligations under this RFP or any resulting contract.

1.5.25 No Obligation

This procurement in no manner obligates the City or any of its agencies to the eventual purchase, rental, or lease of any software, hardware or services offered until authorized by the Asheville City Council and confirmed by a written contract signed by an authorized representative of the City.

1.5.26 Cost/Pricing Information

The City intends to purchase the equipment and services through a contract. Any prices subject to change or outside regulation must be explained. Refer to the cost sheets for items to be included.

1.6 Pre-Proposal Conference

The City will conduct a Pre-Proposal Conference for all interested parties.

Date: September 24 & 25, 2014
Time: 9:30am EDT
Location: Asheville City Hall
70 Court Plaza
IT Conference Room, Third Floor
Asheville, NC 28801

Attendance at the conference is not required to submit a proposal. However, vendors are encouraged to attend, as it is expected that many relevant questions will be answered during the conference. The conference will include an inspection of the dispatch facilities and the anticipated radio site locations. The conference will begin on September 24 as noted above and will likely extend into September 25 to accommodate all of the site visits.

Vendors will be required to email or mail any pertinent questions as indicated below, prior to the conference, in order to allow the City to prepare adequate responses.

Jeff Reble, Senior Project Manager
P.O. Box 7148
Asheville, NC 28802
jreble@ashevillenc.gov

1.7 Vendor Qualifications

Any Vendor offering radio system solutions must demonstrate competence with the design, supply, installation, and support of public safety radio systems. References from projects of similar size and scope will be verified and shall comply with the following:

- The Vendor shall be an authorized sales and service agency for the equipment being offered.
- The Vendor shall have or develop an authorized service facility within 100 miles of Asheville, North Carolina.
- The Vendor must supply adequate local staff and facilities to implement the radio system upgrade and provide ongoing service and maintenance after system acceptance as defined herein.
- The Vendor must be qualified to conduct business within the State of North Carolina.

The Vendor will serve as the prime Vendor and will be responsible for all aspects of the project and the work quality of any sub-vendors. Sub-vendors must also demonstrate competence and experience within their specific scope of services.

City reserves the right to reject any Proposal or part of any Proposal, if indication or review of any services or equipment proposed is deemed to have an unsatisfactory performance record or does not completely meet the requirements stated herein.

City may make such investigation as is deemed necessary to determine the ability of the Proposer to provide the equipment, material, and/or services as required by this RFP and to determine the adequacy of the proposed equipment, material, and/or services. The Proposer shall furnish, upon request and in a timely manner, all such data and information requested for this purpose.

1.8 Obligation of Proposer

Proposers are required to submit their Proposals upon the following express conditions:

- a. Proposers shall thoroughly examine all drawings, specifications, plans, instructions, and all other documents pertaining to this RFP.
- b. Proposers shall make all investigations necessary to thoroughly inform themselves regarding plant and facilities for delivery of materials or equipment and the performance of services as required by the RFP conditions.
- c. No plea of ignorance by the Proposer of conditions that exist or that may hereafter exist as a result of failure or omission on the part of the Proposer to make the necessary examinations and investigations will be accepted as a basis for varying the requirements of this solicitation.
- d. Proposal must comply with all federal, state, county and local laws concerning these types of services.

In case of ambiguity or lack of clarity in stating prices in the Proposal, Purchaser reserves the right to adopt the price written in words or reject the Proposal.

1.9 Project Manager

The City's Project Manager will be Jeff Reble, Senior Project Manager, IT Services Department, and will be the City's single point of contact for all technical and implementation matters. Upon award of contract, the Vendor shall assign a project manager who shall be the single point of contact for the Vendor and shall have the power to make decisions concerning all technical and implementation matters.

1.10 Proposal Contents

A Proposal is defined as a written offer to provide the equipment and services in accordance with requirements specified herein. To be compliant, the Vendor's Proposal submission must include:

1. A cover letter signed by owner or corporate officer, expressing the Vendor's intent to provide equipment, software and services as required in this RFP.
2. Vendor Profile per §1.10.1.
3. Technical Proposal per §1.10.2.
4. Cost Proposal per §1.10.3.
5. A project delivery and implementation schedule which defines project milestones referenced to contract award date.

Any proposal submission that lacks any of these components will not constitute a proposal, will not be evaluated, and will not be eligible for contract award.

Only proposals for a complete Public Safety Radio System as defined in this RFP will be accepted in response to this RFP. The Vendor will carry full, non-assignable, and non-delegable responsibility for the technical and timely completion of all aspects of the project as defined in this RFP.

1.10.1 Vendor Profile

The Vendor profile must provide information on the Vendor's firm or organization, including the parent company, if applicable. In the specific order, it must provide the following information:

1. Clearly define the qualifications of the firm including experience with similar projects.
2. An outline of the Vendor's proposed project organization including key project personnel and a statement of experience for each.
3. A description of how the Vendor proposes to provide support and maintenance for the equipment and options outlined in this RFP.
4. Professional references for the Vendor must be provided. A list of Public Safety Radio System projects must be provided. The Vendor shall provide project information regarding project status of all referenced Public Safety Radio System projects.
5. Statement of compliance and other requested information associated with City policies referenced in Sections 1.5.2, and 1.5.13 and intended compliance with the General Terms and Conditions listed in Section 2.
6. A list of all proposed subcontractors will be provided describing the anticipated service and/or equipment, or software provided. The experience, qualifications and technical support for each subcontractor shall be clearly stated. Vendors shall list all employees and subcontractors that will require access to City's facilities. These employees will be subject to a background investigation prior to approval for access to those locations. The City shall have sole authority in approving Vendor employees and subcontractors for access.
7. The Vendor shall provide a preliminary outline demonstrating the Vendor's approach to organization and completion of the project encompassing all appropriate activities and milestones including those tasks, which are deemed to be the responsibility of the City. Tasks shall be clearly identified as to whether they are the responsibility of the Vendor, a specified subcontractor, or the City. The primary purpose of the outline is to obtain a general picture of the Vendor's approach to accomplishing the ultimate goal.
8. The Vendor must provide a clearly stated description of their Problem Escalation Procedures that will be followed to support the timely implementation of the Public Safety Radio System. This detailed description shall identify management and technical resources proposed to support the City in the event of equipment or personnel problems.

1.10.2 Technical Proposal

A Technical Proposal must be submitted that encompasses all RFP requirements and options. The Technical Proposal must be clearly divided so that each optional task or item described in the RFP is completely distinguishable and may be considered separately. The Technical Proposal shall include a Point-By-Point response to the RFP. The Point-By-Point Response shall specifically accept, clarify, or take exception to each section of the RFP. Each response must be complete without reference to other sections of the response. An electronic copy of the RFP document will be provided to facilitate this requirement. The technical proposal must be physically separate from the submitted cost proposal. Proposals lacking adequate documentation will receive a lower score on the proposal evaluation.

1.10.3 Cost/Pricing Proposal

The Cost/Pricing Proposal must be submitted as a separate document from the Technical Proposal and must include all costs of the proposed offering and system options as defined herein. Official proposal pricing sheets are included as Attachment 2. All costs associated with implementing the proposed equipment, services, and options must be included on the official pricing sheets. The Proposer may add items to the pricing sheet if necessary to accommodate their officering. An electronic copy of the pricing sheet will be provided as a courtesy. The Proposer shall be responsible for the accuracy of all information, calculations, and values presented in their pricing proposal. Additional narrative and other information may be included as needed to adequately explain all costs and options associated with the Proposal.

1.11 Review and Evaluation of Proposals

All proposals will be reviewed for completeness and those found to be either incomplete or non-responsive will be rejected from further consideration. The evaluation team will determine if a reply is “non-responsive” and their decision will be conclusive. The evaluation team will evaluate responsive and complete proposals.

The evaluation team will conduct a technical evaluation to determine the technical compliance of each proposal and to determine that complete and responsive proposals have been submitted. The team will provide an evaluation of cost proposals and selection of potential vendors for further evaluation and/or negotiations.

The evaluation team will rank proposals from best-to-least-desirable based on compliance with the Evaluation Criteria specified in Section §1.12 of this RFP. Discussions may be conducted individually with vendors who submit responsive proposals and who are determined reasonably qualified for award of a Contract. Revisions and/or clarifications may be requested after Proposal submission and before Contract award to obtain best-and-final offers.

1.12 Evaluation Criteria

The project evaluation criteria are listed herein.

Technical Compliance. This evaluation shall consider the degree to which the technical requirements of this RFP are met.

Maximum Score **35**

Vendor References. This evaluation will consider the Vendor's experience and qualifications with similar Public Safety Radio System projects, professional references, financial stability, and other items included in the Vendor Profile section of this RFP.

Maximum Score **20**

Acquisition, Maintenance and Operational Costs. This evaluation will consider all costs associated with initial implementation, maintenance, and other costs identified in the Cost/Pricing Proposal section of this RFP.

Maximum Score **35**

Complete Project Implementation Schedule. This schedule shall include a time-line of all the tasks proposed by the Vendor. This schedule shall include all tasks to be completed by the Vendor and its subcontractors.

Maximum Score **10**

Total Evaluation Score 100

1.13 Standard of Award

The City of Asheville reserves the right to accept or reject any and all Proposals and to re-solicit for proposals, as it shall deem to be in the best interests of the City. Receipt of any Proposal shall under no circumstances obligate the City to accept the lowest cost Proposal. The award of a contract shall be made to the vendor whose proposal is determined to be the best evaluated offer, taking into consideration demonstrated competence and qualifications to perform the service solicited in the RFP. The Vendor shall be deemed as having been awarded a contract when the formal written notice of acceptance of its Proposal has been duly served upon the intended awardee by an authorized agent of the City. The City will enter into contract negotiations with the selected Vendor (i.e. the awardee). If the City of Asheville is unable to successfully negotiate a contract with the selected Vendor, the City may, at its sole discretion, select an alternate Vendor or take other actions deemed to be in the best interest of City. The successful Vendor, at the time of contract execution, must be licensed to do business in the State of North Carolina, and will be required to register as a vendor with the City of Asheville. Vendor Applications can be found on the City's website at: <http://www.ashevillenc.gov/purchasing>.

2.0 GENERAL TERMS AND CONDITIONS

2.1 General

Any catalog or manufacturer's reference in this RFP is descriptive, but not restrictive and used only to indicate type and grade. Proposals on other items of similar and equal quality will be considered, provided the Vendor clearly states exactly what items will be furnished. Otherwise, the Vendor shall be required to furnish the items required in the specifications.

The City may make such investigation as is deemed necessary to determine the ability of the Vendor to provide the equipment, material, and/or services as required by this specification and to determine the adequacy of the proposed equipment, material, and/or services. The Vendor shall furnish, upon request and in a timely manner, all such data and information requested for this purpose.

The City shall consider, as a competent vendor, only those vendors who are fully capable of complying with all terms and conditions set forth in this RFP.

2.2 Intent

It is the intent of this RFP and the resulting contract documents to describe a functionally complete project resulting in a Public Safety Radio System and associated items and services. Any work, materials, or equipment that may reasonably be inferred from the contract documents as being required to produce the intended result will be supplied, whether or not specifically set forth herein. When words which have a well-known technical or trade meaning are used to describe work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals, codes or recommendations of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of contract award, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the contract documents) shall be effective to change the duties and responsibilities of the City, Vendor, or any of their subcontractors, consultants, agents or employees from those set forth specifically in the Contract documents.

2.3 Performance Bond

Simultaneous with delivery of the executed Contract, the successful Vendor shall provide a surety bond or bonds as security for faithful performance of this Contract and for the payment of all persons

performing labor on the project under this Contract and furnishing materials in connection with this Contract, in the amount of 100% of the Contract amount. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to and subject to investigation by the City.

2.4 Insurance

The Successful Vendor (Contractor) agrees to keep and maintain for the duration of the Contract including but not limited to commercial general liability, auto liability, workers' compensation, employer's liability, professional liability, and umbrella coverage with at least the minimum limits shown below. Contractor shall provide evidence of insurance coverage consistent with this requirement prior to contract execution. The Contractor shall furnish the City with certificates of insurance for each type of insurance described herein, with the City listed as Certificate Holder and as an additional insured on the Contractor's general liability policy and provide a waiver of subrogation on the Contractor's workers' compensation policy. In the event of bodily injury or property damage loss caused by the Contractor's negligent acts or omissions in connection with Contractor's services performed under this Agreement, the Contractor's Liability insurance shall be primary with respect to any other insurance which may be available to the City, regardless of how the "Other Insurance" provisions may read. In the event of cancellation, substantial changes or nonrenewal, the Contractor and Contractor's insurance carrier shall give the City at least thirty (30) days prior written notice. No work shall be performed until the Contractor has furnished to the City the above referenced certificates of insurance and associated endorsements, in a form suitable to the City. Upon request, the Contractor shall provide the City copies of their insurance policies.

- Commercial General Liability: \$1,000,000 per occurrence
- Excess (Umbrella) Liability: \$2,000,000
- Commercial Auto Liability: \$1,000,000 combined single limit
- Workers' Compensation: Statutory
- Employer's Liability: \$500,000 each accident/total disease/employee disease
- Professional Liability: \$1,000,000 per claim-made / \$2,000,000 aggregate

Certificate of Insurance shall list City of Asheville, PO Box 7148, Asheville, NC 28802, as Certificate Holder.

2.5 Contract Document Hierarchy

The Contract, statement of work, RFP, Vendor's best-and-final offer, and Vendor's Proposal and any subsequent, approved amendments will constitute the contract documents. All requirements and all

terms and conditions stated in the RFP will apply unless specifically superseded by the Contract, Statement of Work or other higher precedent document. Any inconsistencies will be resolved in the following order of precedence:

- a. Contract
- b. Statement of Work
- c. RFP
- d. Vendor's best-and-final offer
- e. Vendor's Proposal

2.6 Notices

All notices required by any of the Contract documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested, to the addresses specified in the Contract.

2.7 Drug Free Workplace

The City of Asheville is a drug-free workplace employer. The Asheville City Council has adopted a policy requiring City construction and service contractors to provide a drug-free workplace in the performance of any City contract. In order to be eligible to submit a bid or proposal for a City construction or service contract, a prospective contractor must certify that it will, if awarded the contract, provide a drug-free workplace during the performance of the contract. This requirement is met by:

- Notifying employees that the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken for violations of such violation.
- Establishing a drug-free awareness program to inform about the dangers of drug abuse in the workplace, the contractor's policy of maintaining of drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and penalties that may be imposed upon employees for a drug violation.
- Notifying each employee that as a condition of employment, the employee will abide by the terms of prohibition outlined above and notify the contractor of any criminal drug statute conviction for a violation occurring in the workplace not later than (5) days after such conviction.
- Notifying the City of Asheville within ten (10) days after receiving from an employee a notice of criminal drug statute conviction or after otherwise receiving actual notice of such conviction.
- Imposing a sanction on or requiring the satisfactory participation in drug counseling, rehabilitation or abuse program by, an employee convicted of a drug crime.
- Making a good faith effort to continue to maintain a drug-free workplace for employees.

- If the prospective vendor is an individual, the drug-free workplace requirement is met by not engaging in the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance in the performance of the contract.

By submitting a response to this RFP, a prospective primary vendor certifies that it and all subcontractors will comply with the City of Asheville drug-free workplace requirement. A false certification or the failure to comply with the above drug-free workplace requirements during the performance of a contract shall be grounds for suspension, termination, or debarment. The awarded vendor will be required to complete the following certification:

2.8 Drug Free Workplace Certification

_____, Contractor with the City of Asheville for the project known as:
(Contractor's name)

"Public Safety Radio System", certifies that the City's Drug-Free Workplace Policy, as set forth in the §2.7 ("Policy"), has been reviewed by or explained to the officers, agents and employees of:

_____, and hereby agrees that the Policy is a part of the Contract and
(Contractor's name)

further certifies that _____ will comply with the requirements thereof.
(Contractor's name)

This the _____ day of _____, 20_____.

Attest:

Secretary/Treasurer
(Corporate Seal)
President / Vice President

(Contractor's name)
By: _____

SWORN TO AND SUBSCRIBED before me this _____ day of _____, 20_____.

Notary Republic
My Commission Expires:

2.9 E-Verify Compliance

North Carolina session law (HB 786) requires that contractors (vendors) and their subcontractors must use E-Verify in their new hiring process. E-Verify is a federal program operated by the United States Department of Homeland Security and is an Internet-based system that allows businesses to determine the eligibility of their employees to work in the United States. No city in North Carolina may

enter into a contract unless the contractor and the contractor's subcontractors comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. North Carolina law also states no contract subject to the formal bidding requirements (G.S. 143-129) may be awarded by any governing body unless the contractor and subcontractors comply.

By submitting a response to this RFP, a prospective vendor certifies that it and all subcontractors will comply with the E-Verify program requirements and submit an E-Verify compliance statement. A false certification or the failure to comply with the E-Verify requirements during the performance of a contract shall be grounds for suspension, termination, or debarment. The awarded vendor will be required to submit an E-Verify affidavit available from the City's website at: www.ashevillenc.gov/purchasing.

2.10 Indemnification

The Successful Vendor (Contractor) shall indemnify, defend and hold harmless the City and its subsidiaries, divisions, officers, directors and employees from all liability, loss, costs, claims, damages, expenses, attorney fees, judgments and awards arising or claimed to have arisen, from any injury caused by, or allegedly caused by, either in whole or in part, any act or omission of the Contractor or any employee, agent or assign of the Contractor. This provision is not applicable to any claim arising out of or related to any active or primary negligence of or by City, its officers or employees.

Nothing herein shall be construed as a waiver on the part of the City to any defense of any claim, including, but not limited to the defense of governmental immunity.

2.11 Assignment

Neither party of the Contract shall assign the Contract, or sublet it as a whole or part, without the prior written consent of the other party.

2.12 Errors or Omissions

If the Vendor discovers any error or omission in the Contract drawings or specifications or in the work undertaken or performed by it, it shall immediately notify the City in writing and the Vendor shall verify or correct the same. If, knowing of such error or omission and prior to its correction thereof, the Vendor proceeds with any work affected thereby, it shall do so at its own risk and the work so done shall not be considered as work done under contract and in performance thereof unless, and until, approved and accepted by the City.

2.13 Governing Laws

The Contract will be governed by the laws of the State of North Carolina. All duties of the parties shall be deemed to be performed in Buncombe County, North Carolina. The applicable law for any legal dispute arising out of the Contract shall be law of the State of North Carolina. Any legal dispute will be filed in the courts of Buncombe County, North Carolina.

2.14 Laws, Statutes and Other Governmental Requirements

Vendor agrees to maintain compliance with all laws, statutes, and other governmental provisions prevailing during the term of this agreement.

2.15 Disability

In accordance with the provisions of the Americans With Disabilities Act of 1990 ("ADA"), Vendor warrants that it and any and all of its subcontractors will not unlawfully discriminate on the basis of disability in the provision of services to the general public, nor in the availability, terms and/or conditions of employment for applicants for employment with, or employees of Vendor or any of its subcontractors. Vendor warrants it will fully comply with ADA provisions and any other applicable federal, state and local laws concerning disability and will defend, indemnify and hold City harmless against any claims or allegations asserted by third parties or subcontractors against City arising out of Vendor's and/or its subcontractors alleged failure to comply with the above-referenced laws concerning disability discrimination in the performance of this agreement.

2.16 No Obligation

This procurement in no manner obligates the City, or any of its agencies, to the eventual rental, lease or purchase of any hardware, software or services offered until confirmed by a written Contract signed by an authorized representative of the City and its designees.

2.17 Fiscal Funding Limitation

In the event no funds or insufficient funds are appropriated and budgeted or are otherwise unavailable by any means whatsoever in any fiscal period for payments due under this Contract, then the City will immediately notify Vendor of such occurrence and this Contract shall be terminated on the last day of the fiscal period for which appropriations were received without penalty or expense to the City of any kind whatsoever, except to the portions of annual payments herein agreed upon for which funds shall have been appropriated and budgeted or are otherwise available

Any contract awarded as a result of this RFP process may be terminated if sufficient appropriations or authorizations do not exist. Such termination will be effected by sending written notice to the Vendor. The City's decision whether sufficient appropriations and authorizations will be available shall be accepted by the Vendor as final.

2.18 Sales Tax

The City is exempt from Federal Excise and State Sales Tax. The price to be paid by the City under the Contract shall exclude all taxes for which the City's tax exempt status applies.

2.19 Total Payment to Vendor

The total payment figure specified by the Vendor in its Proposal or otherwise negotiated in the Contract is the maximum payment that will be made by the City for the equipment, warranty, maintenance and all other services and equipment required by this RFP.

2.20 Payment Terms

The Vendor shall submit invoices for payment based upon completed project milestones. The following payment schedule will be utilized unless otherwise negotiated in the Contract.

- 15 % upon execution of Contract
- 20% upon issuance of Notice-To-Proceed by City
- 20% upon delivery of equipment
- 15% upon completion of equipment installation
- 15% upon successful completion of Acceptance Testing
- 15% upon Final Acceptance

Payment shall be due thirty (30) days following the date of Vendor's invoice and verification of completion of the project milestone by the City. The City shall be responsible for verification and approval of Vendor's invoice, which approval shall not be unreasonably withheld. Approved invoices shall be paid via Electronic Funds Transfer ("EFT").

2.21 Termination

The City may terminate the Contract at any time, with or without cause, by notice, in writing, mailed certified mail, return receipt requested, to the Vendor. Upon receipt of such notice, the Vendor shall immediately discontinue all services and work and the placing of all orders or the entering of contracts for supplies, assistance, facilities and materials in connection with the performance of the Contract and shall proceed to cancel all existing contracts insofar as they are chargeable to the Contract.

If the City terminates its contract under the foregoing paragraph, the City shall pay the Vendor for services actually performed prior to such termination, less such payments as have been previously made. The Vendor shall not be entitled to any further compensation for work performed by the Vendor or subcontractors under its control or direction from date of receipt of notice of cancellation.

Upon termination of the Contract, the Vendor shall provide the City with reproducible copies of all completed work or partially completed documents prepared under the Contract, all such documents being owned by the City.

2.22 Abandonment

In the event the Vendor fails to complete all or any portion of the work to be performed as specified in the Contract, it will forfeit all retainage from completed portions of the project. Additionally, the Vendor will be liable for subsequent costs incurred to complete the project; to the extent such additional costs exceed the amount of contractual retainage held by the City.

2.23 Statement of Liability

The City shall not be liable in the event of loss, destruction, or theft of, Vendor-provided equipment, software and technical literature. It is the Vendor's responsibility to obtain insurance coverage for such loss in an amount the Vendor deems appropriate.

2.24 Copyrights and Patents

License and/or royalty fees for the use of a process which is authorized by the Vendor for the City's use for the equipment provided in this procurement must be reasonable and paid to the holder of the copyright or patent, or authorized licensee, directly by the Vendor and not by, or through, the City. If the Vendor uses any other design, device or materials covered by patent or copyright, it shall provide for such use by suitable agreement with the holder of such patented or copyrighted design, device or materials. It is mutually agreed to and understood that, without exception, the contract prices shall include all royalties or costs arising from the use of such designs, devices or materials in any way involved in the system.

Where activities supported by this project produce original computer programs, writings, sound recordings, pictorial reproduction, drawings, or other graphical representation and works of any similar nature (the term computer program includes executable computer programs and supporting data in

any form), the City has the right to use, duplicate, and disclose, in whole or in part, in any manner, for any purpose whatsoever and have others do so. If the material is copyrightable, the Vendor may copyright such, and the City reserves a royalty-free, non-exclusive, and irrevocable license to reproduce, publish and use such materials, in whole or in part to authorize others to do so.

2.25 Confidentiality

The successful Vendor and the City recognize that their respective employees and agents, in the course of performance of the Contract, may be exposed to information that is a trade secret or confidential within the meaning of North Carolina General Statutes § 132-1.2 (1) or other applicable law. The burden will be upon the party asserting confidentiality to ensure compliance with the statute or other applicable law as to any information with respect to which confidentiality is asserted. Each party will agree in the Contract that it will not disclose any confidential information of the other party and further agrees to take appropriate action to prevent such disclosure by its employees or agents. If the City receives a request for disclosure of information that the Vendor has designated as confidential pursuant to law, it will promptly communicate such request to the Vendor. If a legal action is initiated to compel the disclosure of Vendor's confidential information by the City, the Vendor will be responsible for the defense of said action, including all costs and attorney's fees. The obligation of confidentiality shall not apply to:

- a) information that at the time of the disclosure is in the public domain;
- b) information that, after disclosure, becomes part of the public domain by publication or otherwise;
- c) information that a party can establish by reasonable proof was in that party's possession at the time of disclosure;
- d) information that a party receives from a third party who has a right to disclose it to that party;
or
- e) information that is subject to North Carolina public records requests.

The City shall not be liable to the Vendor or any other person, firm, corporation or business entity for any damage resulting from a disclosure if information is required to be provided by law.

2.26 Right to Publish

Throughout the duration of this procurement process and contract term, potential Vendors must secure, from the City, written approval prior to the release of any information that pertains to the potential work or activities covered by this procurement or the subsequent Contract. The Vendor shall not issue any news releases or other statements pertaining to the award or servicing of the agreement, which state or imply the City's endorsement of Vendor's products or services. Failure to

adhere to these requirements may result in disqualification of the Vendor's proposal or termination of the Contract.

2.27 Applicable Codes and Regulations

The Vendor is responsible for compliance with all applicable codes and regulations including but not limited to the latest versions of the International Building Code, National Electrical Code, International Fire Code, and International Mechanical Code. The Vendor shall also be responsible for compliance with applicable Environmental Protection Agency, Federal Communications Commission, and Federal Aviation Administration regulations and any other codes or regulations necessary for implementation of the Vendor's proposal.

2.28 Construction Permits

The Vendor shall be responsible for obtaining all necessary construction permits for system installation and implementation. The City will provide assistance in expediting the permitting process. The Vendor will retain the ultimate responsibility for obtaining the appropriate construction permits.

2.29 Configuration Responsibility

Vendor will be responsible for the configuration and integration of all equipment, systems and services furnished under the Contract. Vendor will be solely responsible for the performance of the delivered equipment. Any additional components not specifically identified in the Contract and its attachments, but that is required in order to fulfill the requirements set forth under the terms and conditions of the Contract, shall be provided and installed by the Vendor without additional charge to the City.

2.30 Prime Contractor Responsibility

If a Proposal includes hardware, software and/or other services to be supplied by other vendors or subcontractors, it will be mandatory for the Vendor to act as Prime Contractor for the procurement of the entire system and related services. The Vendor shall be considered the sole point of contact with regard to contractual stipulations to include payment of any and all charges, as the City does not recognize subcontractors in this instance.

In addition, the successful Vendor will be responsible for meeting all other requirements of these specifications. The Proposal must clearly indicate the hardware and software which is not manufactured, marketed and/or maintained by the Vendor.

Primary sub-vendors shall be companies with extensive experience in the installation and maintenance of hardware and software. Vendor shall state the tasks and time commitments for each proposed sub-vendor. Installation and maintenance sub-vendors and/or joint ventures shall be licensed to do business in the State of North Carolina. Vendor shall provide documentation acceptable to the City proving each sub-vendor's qualifications, the number of, and the qualifications of, their personnel available for the contract work. Vendor agrees to use only the sub-vendors and personnel previously identified to the City. Assignment of different sub-vendors and personnel other than identified will require written permission from the City. The City reserves the right to disapprove, with reasonable cause, any sub-vendor and any employee.

Vendor agrees that it is fully responsible to the City for the acts and omissions of its sub-vendors on the same basis as it is for the acts of omissions of persons directly employed by it, and that failure of the City to disapprove a sub-vendor shall in no way relieve Vendor of such obligations. Nothing contained in the Contract shall create any contractual relationship between any sub-vendor and the City nor create any obligation on the part of the City to pay, or to see the payment of, any sums to any sub-vendor. Vendor shall not write any subcontract at variance with the conditions of the Contract documents.

The Vendor shall operate as an independent and not as an officer, agent, servant or employee of the City. The Vendor shall have exclusive control of, and the exclusive right to control, the details of its operations hereunder, and all persons performing same, and shall be solely responsible for the acts and omissions for its officers, agents, employees, vendors, and subcontractors. The doctrine of respondent superior shall not apply as between the City and Vendor, its officers, agents, employees, and subcontractors. Nothing herein shall be construed as creating a partnership or joint enterprise between the City and Vendor, its officers, agents, employees, consultants, and subcontractors.

2.31 Detailed Design Review

The Vendor will submit a detailed design document for review in accordance with §3.17 within 60 days of contract award. The Detailed Design will be presented to the City at the specified Design Review meeting. The Vendor will be expected to interface with representatives from the City and City's Consultants to discuss any relevant project issues, options, and integration details. Any necessary design changes/modifications will be presented to the City within 14 days of the Detailed Design meeting.

Upon acceptance of the Vendor's design, the City will issue a Notice-to-Proceed. Equipment manufacture, delivery and installation will not begin until City accepts the detailed design and issues a formal Notice-to-Proceed to the Vendor. Approval of the design documentation by City shall be general in nature and shall not relieve the Vendor of responsibility for the accuracy of the document nor for the proper design and performance of the equipment and services provided under this procurement.

2.32 Work by City or City's Vendors

City reserves the right to perform work related to this project and to perform or award separate contracts in connection with other work at the sites. All such work and responsibilities shall be identified in the Contract and/or Statement of Work. The Vendor shall incorporate and coordinate the Vendor's work with work of City and/or City's separate vendors as required by the Contract documents.

Costs caused by defective or ill-timed work shall be borne by the party responsible. If the Vendor claims that delay or additional cost is involved because of such action by City and/or City's separate vendors, the Vendor shall make such claims as provided in the Contract.

2.33 Warranties

2.33.1 General

The provisions of this section are general warranty terms.

2.33.2 Warranty of Title

The Vendor warrants to City that it possesses good, clear and marketable title to all equipment and materials provided hereunder and there are no pending liens, claims or encumbrances whatsoever against said equipment and materials.

2.33.3 Warranty of Specifications and Performance

The Vendor warrants that all equipment, materials and workmanship furnished, whether furnished by the Vendor, or its subcontractors and suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a workmanlike manner.

Vendor shall be solely responsible for the performance of the delivered materials and equipment. Vendor shall provide a working "system" that shall provide the equipment,

performance, and services as described in the Contract, its Exhibits, Statement of Work and the RFP.

2.33.4 Equipment Warranty and Maintenance

All equipment, materials, parts, and services shall be warranted against defects in design, materials and workmanship for a period not less than one year as defined in §5.8. The initial warranty period shall begin upon final system acceptance. The Vendor shall propose pricing for two optional five-year maintenance periods as defined in §5.9 commencing after expiration of the initial warranty period. The Proposal shall clearly define the terms, coverages, and cost of the optional maintenance periods.

2.34 Final Acceptance

The Vendor shall receive final acceptance upon completion of the following steps:

1. Submission of all documentation required by the RFP
2. Completion of all construction and installation required by the RFP
3. Completion of all services as required by the RFP
4. Successful completion of all acceptance testing
5. Submission of acceptance test reports
6. Submission of all documentation including final design and “as-built” drawings
7. Completion of all training programs
8. Final Acceptance will be issued by the City no later than thirty (30) days after successful completion of Items 1-7 above.

3.0 TECHNICAL AND PERFORMANCE REQUIREMENTS

3.1 General Requirements

The City is soliciting proposals from qualified firms to provide a new turnkey public safety quality radio system that meets or exceeds the needs and functional requirements of the system users as stated herein. The Vendor shall propose their system configuration to achieve the operational requirements and shall be responsible for the method of accomplishing their proposed configuration. Any deviation from the requirements shall be specifically noted as an exception in the proposal. The City shall have the sole authority to determine compliance with the stated system requirements.

The Proposal must comply with the following general standards:

- All equipment and services offered shall be of high quality and suitable for the intended purpose.
- No discontinued, used, or refurbished equipment shall be supplied under this procurement other than equipment specified herein as available for reuse.
- The Vendor shall be an authorized sales and service agency for the equipment being offered.
- All equipment and devices added to the system shall be current models with full manufacturer support.
- All equipment added to the system shall have available manufacturer support for a minimum of seven years after equipment has been discontinued or an end-of-life notice has been issued.

This section shall provide an operational description of the minimum requirements of the desired system.

3.2 Description of Desired System

The requested radio system upgrade will replace the existing 3-site, 7-channel, 800 MHz simulcast system described in §1.2. The anticipated system will utilize P25 Phase-1, trunking technology and shall be compliant with relevant TIA standards for APCO Project 25 (“P25”) systems. It is anticipated that up to four radio site locations will be required to satisfy the coverage requirements and that simulcast technology will be utilized to configure the fixed-site equipment for operation with the same frequency pairs at all site locations. The new P25 simulcast radio system is expected to use the same seven frequency pairs that are currently licensed to the City; per FCC call sign WNXR226.

The system shall include integrated console equipment to replace existing console positions at the

primary and backup dispatch centers. The procurement will include optional Fire Station Alerting (FSA) and optional voice recording equipment. The City will provide a suitable IP backhaul system for interconnection of all sites, controllers, and console equipment.

3.3 System Configuration Concept

Based on the coverage and operational needs of the City of Asheville and its radio users, the City has performed preliminary system configuration activities and developed a tentative system configuration. The Vendor shall evaluate and validate this system configuration concept. Per the coverage and operational needs of the City, available site locations and available FCC spectrum, the City anticipates the following general system configuration:

- **Protocol:** APCO P25 Phase 1 Trunked
- **Frequency Band:** 800 MHz
- **Channels:** Seven (7)
- **Site Count:** Approximately four, per Vendor's design
- **Multisite Configuration:** Simulcast
- **Console System:** Integrated console system with six positions at the primary dispatch center and three positions at the backup dispatch center
- **Fire Station Alerting:** Optional FSA for 14 fire stations
- **Digital Logging Recorder:** Optional digital logging recorder

The system delivered shall be compliant with relevant TIA P25 trunking standards and utilize P25 CAI Phase 1 C4FM modulation or P25 Phase 1 CQPSK simulcast modulation as deemed appropriate by the Vendor's design. All infrastructure hardware shall be capable of migration to P25 Phase 2 operations via software/firmware upgrades. The system shall support all existing user equipment that has been P25 CAP-certified (performance, conformance, and interoperability) for operations in the frequency band utilized for this deployment. The radio system shall utilize simulcast technology to configure the radio system transmission sites for operation with the same seven frequency pairs at all site locations. The Vendor's proposed simulcast solution shall incorporate all components necessary to provide simulcast quality frequency stability, time synchronization, and modulation fidelity. The City anticipates the use of GPS technology to provide simulcast time synchronization and master oscillator reference. Each simulcast channel shall utilize voter/comparator technology to ensure that the most reliable receiver signal is selected at all times and distributed to the transmitters for rebroadcast.

The City has identified existing RF site locations which will be made available to the successful Vendor. Based upon preliminary coverage analysis, it is believed that up to four sites will be required to satisfy the coverage requirements presented in §3.6. The Vendor will be responsible for evaluating the site locations presented in §3.7.2 and for determining the appropriate site count and equipment configurations necessary to meet the coverage requirements.

The Proposal shall include a dispatch console system replacement at the primary and backup dispatch centers. The console system shall support the following general features (see §3.9 for detailed console requirements):

- P25-compliant Console Subsystem Interface (“CSSI”) or similarly featured interface
- Six dispatch positions at primary dispatch center
- Three dispatch positions at backup dispatch center
- PC-based workstations
- IP technology for workstation connectivity
- Support for P25-compliant AES encryption
- Interfaces for 16 interoperability stations
- Expansion capabilities for at least 12 total positions

System options shall include a replacement Fire Station Alerting system per §3.16.1 and a replacement voice recording system per §3.16.2. All systems and subsystems delivered must include security controls to restrict network access by unauthorized users and to prevent unauthorized or insecure connections between network components. Security controls must include, but are not limited to, firewall security and authentication controls.

3.4 Standard Compliance & Updates

The P25 system shall comply with relevant P25 standards for mandatory functions and standard options. It is recognized that certain common, trunked radio system features such as priority scanning, conventional failsoft, and over-the-air programming are not adequately addressed by existing P25 standards. The Proposal shall describe recommended proprietary features and associated user radio capability considerations. Further, the manufacturer shall make all reasonable efforts to comply with future P25 standards that address these and other proprietary features. It is anticipated that the equipment manufacturer will make system software/firmware updates and enhancements available from time to time. Any available system updates that address compliance with P25 standards for priority scanning, conventional failsoft, or other features (standard or proprietary) included in this offering shall be provided to the City at no cost during system implementation and the Initial Warranty

Period described in §5.8. System updates offered during extended support and maintenance coverage shall be addressed per the terms of those agreements.

3.5 Alternate Proposals & Regional Partnerships

The Vendor shall submit a proposal consistent with the System Design Concept and other requirements herein. The Proposal shall include all equipment and services necessary to provide a fully-functional system that will be owned and operated by the City of Asheville. If the Vendor believes that alternative configurations, including shared resources or partnerships with existing regional systems, could better fulfill the stated objectives of the RFP, the Vendor may submit alternate proposals or options. If an alternate proposal or option utilizes shared resources or partnerships with other agencies, the Proposal must include any associated usage fees. The City of Asheville will negotiate interlocal agreements as necessary with participating agencies, but a proposed standard or boilerplate agreement should be provided by the Vendor. Any Vendor electing to provide an alternate proposal shall provide a fully-compliant primary proposal and a separate alternate proposal. Unsolicited options may be added to a primary proposal provided that any optional component or service is fully described and priced separately.

Regional public safety agencies may submit an interlocal agreement proposal to function as a communications service provider or system Vendor to the City of Asheville. However, any interlocal agreement proposal from a regional agency must meet the following conditions:

1. All requirements of the RFP (excluding system ownership, system partnerships, and/or shared resources) must be addressed.
2. All operational and capital costs and fees must be fully described and included in the Proposal.
3. The Proposal shall include a proposed governance structure explaining how the system will be administered and maintained.
4. The agency's radio system infrastructure manufacturer or authorized integrator must also submit a separate, fully-compliant RFP response for a solution that will be owned and operated by the City of Asheville.

3.6 Coverage Requirements

3.6.1 General

The P25 simulcast system shall provide guaranteed coverage performance as defined herein. Audio intelligibility of DAQ 3.4 (2% bit error rate) shall be delivered per the service area and reliability requirements. In-building performance shall be based upon a building penetration margin of 12 dB.

3.6.2 Service Area & Reliability

The City of Asheville is responsible for all public safety services within its city limits and adjoining extraterritorial jurisdictions ("ETJ"). Attachment 1 provides an illustration of the city limit and ETJ boundaries for which Asheville provides services. The City will supply GIS data layers of these boundaries in ESRI Shapefile format to interested parties.

The P25 radio system shall provide DAQ 3.4 performance to handheld portable radios throughout 95% of the Asheville city limits and ETJ's presented in Attachment 1. Further, the P25 system shall provide in-building service (12 dB margin) throughout 95% of the Asheville city limits.

3.6.3 Coverage Design

Candidate communications sites are provided in §3.7.2. The Vendor is fully responsible for evaluating the coverage performance of the candidate sites. It is anticipated that up to four site locations may be required to satisfy the coverage requirements. However, the Vendor is encouraged to minimize cost and site count to the extent possible. The Vendor shall be responsible for a system configuration which delivers the specified coverage requirements. The Vendor shall optimize the system and provide any and all adjustments, modifications, and/or enhancements needed to comply with the coverage requirements and successfully complete the Coverage Acceptance Test; see §3.6.5.

3.6.4 Coverage Predictions

The Proposal shall include preliminary coverage predictions showing compliance with the coverage requirements herein. The coverage predictions shall be prepared utilizing TIA TSB-88-C methodology and shall demonstrate the bounded-area reliability requirements as defined in §3.6.2. The portable radio performance calculations and coverage predictions shall assume a body-loss factor of 9 dB. The system configuration and coverage predictions will be revised during the Design Review process.

3.6.5 Coverage Verification

3.6.5.1 Coverage Acceptance Test Plan

The Proposal shall include a sample Coverage Acceptance Test Plan ("CATP"). The sample CATP shall provide the methodology for conducting the Coverage Acceptance Test and shall comply with the requirements herein. A final CATP will be developed by

the Vendor and submitted for approval at least thirty (30) days before the test is scheduled to be performed. The City will approve, conditionally approve, or reject the test plan within fourteen (14) days of submittal.

Tests will not be considered valid unless the test plan has received prior approval and the tests are monitored by the City or its official designee(s). The City reserves the right to disapprove any tests or test results which do not conform with agreed upon procedures and pass/fail criteria. If disapproved, it shall be the sole responsibility of the Vendor to modify, correct, or repeat any such disapproved tests or test results to the satisfaction of the City.

3.6.5.2 Testing Methodology

The CATP shall employ TIA TSB-88-C methods to conduct an automated drive test. It is anticipated that the service areas will be divided into uniform grids for evaluation purposes. An automated drive test process will be utilized to measure and record GPS position, signal strength, and Bit Error Rate ("BER") of the outbound simulcast signal. Calculations will be performed to relate the outbound drive data to inbound performance. RF attenuators will be utilized as necessary to simulate portable radio body blockage, building attenuation, and/or inbound path imbalance (if applicable). Coverage data will be collected for all accessible grids within the specified service areas. It will be City of Asheville's responsibility to provide access to test grids. Grids that are not made accessible to the Vendor shall be eliminated from the test. The coverage test plan shall include limited voice testing in not more than 5% of the test tiles. The purpose of the voice testing is to demonstrate DAQ 3.4 performance at a sampling of locations throughout the coverage area.

3.6.5.3 Post Processing & Evaluation

Sub-samples within a test grid shall be linearly averaged to determine the mean signal level and average BER. A test grid shall be designated as "Pass" if the average BER is 2% or less. 95% of all accessible grids within the designated service area must be declared "Pass" to comply with the coverage requirements.

A test report shall be generated documenting the testing methodology, equipment configuration, and results. The results shall include a statistical analysis of coverage performance and coverage maps showing signal strength and BER results for each

test grid. The Vendor shall provide all the GPS, signal strength, and BER data in comma-separated text (CSV) format.

3.7 System Facilities

3.7.1 General

The City's conceptual configuration has identified site locations that will be made available to support the fixed-site equipment. The City will be responsible for providing electrical service, backup power, HVAC, and environmental alarm sensors at each site. The Vendor will be responsible for routing of electrical circuits to their equipment, connection of environmental sensors to the alarm monitoring system (see §3.11.3), and any grounding system upgrades needed per their warranty and maintenance standards.

If the Vendor's site audit determines that other upgrades are needed for the site to be viable, the Vendor shall provide such information to the City. The City will be responsible for performing reasonable facility upgrades that may be necessary for utilization of the site for the intended purpose. Once all site preparations and upgrades have been identified and performed, the Vendor shall inspect the facility and certify its suitability for the intended purpose. Any additional site preparation or upgrades required by the Vendor after site certification will be the responsibility of the Vendor.

The Vendor's installation and cutover plans shall consider existing system equipment that must remain in service until final acceptance. The Vendor will work with the City to develop equipment configurations and layouts as necessary to maintain existing system functions during implementation. Installation plans may require temporary configurations that are converted to final layouts after removal of obsolete equipment.

3.7.2 Site Locations

Table 1 provides technical details for the preferred site locations, which consists of the three existing sites and Spivey Mountain. The radio system previously utilized the Spivey Mountain location. However, Site equipment was relocated to Upper White Fawn in 2012 to provide better in-building performance in downtown Asheville. The City of Asheville antenna systems remain in place on the Spivey Mountain Tower.

<u>Site Name</u>	<u>Address</u>	<u>Coordinates</u>	<u>Structure Type</u>	<u>Structure Height (ft)</u>
Upper White Fawn	164 Reservoir Road at Upper White Fawn Mtn.	N35-35-00.2 W082-32-45.6	Self-Support Tower	185
Royal Pines	55 Crestwood Drive	N35-28-56.4 W082-30-33.4	Self-Support Tower	100
Peach Knob	Atop Peach Knob	N35-38-12.6 W082-29-54.3	Guy-Wired Tower	147
Spivey Mountain	Atop Spivey Mtn.	N35-36-04.4 W082-39-05.5	Self-Support Tower	180

Table 1

The City has commissioned structural analysis studies for the sites in Table 1 based upon existing antenna equipment. Per the results of these studies, the Vendor must propose one-for-one replacement of existing antenna systems with similar weight and wind load. Proposed equipment weight cannot exceed current equipment weight by more than 5%. Likewise, wind load of proposed equipment cannot exceed existing wind load by more than 10%. Weight and wind load calculations shall be based upon the final site configuration after removal of obsolete devices. Attachment 3 provides a tower profile and audit of existing antenna equipment for each of the preferred sites. The audit information includes relevant weight and load data. Existing antennas for the Asheville trunked radio system are highlighted in yellow. The Vendor may assume that the sites in Table 1 and the exiting antenna locations shown in Attachment 3 will be available. If it is later determined that sites or antenna locations are not available, the City and Vendor will work together to assess the impact of any changes required.

Other sites may be utilized in the system design if deemed more advantageous. The inclusion of other/alternate sites in the proposed design must include an evaluation of available space for antennas and equipment and projected lease rates.

3.7.3 Base Station Antenna Configuration

The System Configuration Concept (see §3.3) anticipates that one transmit antenna and one receive antenna will be utilized at each site location. The selected Vendor is responsible for providing an antenna/filtering configuration that allows the system channels to operate without internally generated interference or degradation. The acceptance test plan shall include procedures to demonstrate that sufficient transmit-to-receive isolation and interference protection has been provided.

3.7.4 Dispatch Centers

The primary dispatch facility is the Buncombe County Emergency Communications Center at 164 Erwin Hills Road. The backup dispatch center is in the Municipal Building at 100 Court Plaza. The selected Vendor will be responsible for all cabling necessary to support the dispatch center equipment proposed. The City and County will be responsible for providing all workstation furniture, AC power, HVAC, and Ethernet connectivity as necessary to support the Vendor's configuration. The console equipment shall be integrated with the existing furniture with minimal exposed equipment and wiring. The Vendor shall provide all materials and equipment necessary to provide a complete and functional dispatch console system as defined in §3.9.

3.8 Spectrum

The System Design Concept assumes that the seven existing 800 MHz channels will be utilized for the P25 system. These frequencies are authorized per FCC call sign WNXR226 for the three existing site locations and Spivey Mountain. There is a known minor discrepancy with the licensed coordinates for the Peach Knob site. If the existing three sites and Spivey Mountain are utilized for the design, the minimum FCC license modifications will include updating emission designators, updating technical parameters, and correcting the Peach Knob coordinates. Additional modifications will be required if alternate site locations or additional site locations are utilized. The Vendor will be responsible for all frequency coordination, coordination fees, and FCC license modifications necessary to implement their proposed design.

The conventional VHF Fire system described in §3.13.1 operates under FCC call sign WPWW256. The replacement system is assumed to be a one-for-one replacement without the need for FCC license modifications. If the Vendor's solution requires relocation or modification of the FCC licensed parameters, the Vendor shall be responsible for all frequency coordination, coordination fees, and FCC licensing.

3.9 Dispatch Console Requirements

3.9.1 General

The radio system shall be deployed with integrated, IP-based dispatch consoles. Console connectivity to the P25 system shall use a direct IP interface, allowing consoles to be located wherever radio system IP network connectivity is present. Six dispatch console positions will be located at the primary dispatch center and three dispatch console positions will be located

at the backup dispatch center. The system shall be expandable to support additional console positions deployed at other IP-connected locations. Each dispatch console position shall incorporate touch-screen technology and a trackball pointing device.

3.9.2 Physical and Environmental

Dispatch console equipment shall be powered from 115 VAC at 60 Hz. The Vendor shall specify electrical requirements. The computer for the console position shall be dedicated to radio console functionality. The unit shall be compact and designed to minimize physical footprint and space requirements. The Vendor shall provide mean-time between failure (“MTBF”) specifications of the console computer. The City will provide UPS-protected power circuits and backup power at the primary dispatch center. The Vendor shall provide UPS equipment at the backup dispatch center. The dispatch console equipment shall not be affected by temporary power loss. The Vendor will work with the City to develop an equipment layout to support the proposed console equipment and allow for an efficient cutover from the existing console system.

3.9.3 Dispatch Console Equipment

Each dispatch console position shall include the following equipment:

- Dedicated computer
- 22" (minimum) LCD capacitive touch screen monitor
- Optical trackball pointing device
- Dual headset jack shall be included
- Footswitch (heavy-duty and non-skidding)
- Dual speakers - one select audio speaker and one unselect audio speaker. The console shall support the ability to utilize up to four speakers with user-definable audio routing
- Desktop microphone

3.9.4 Dispatch Console Functionality

Each console position shall support P25-compliant AES encryption and shall be configurable such that all talkgroups, channels, and functions are available. User preferences, screen configurations, and software features for the positions shall be field-programmable through firmware or software. The console shall be able to support multiple user-definable screens, allowing customization of types and locations of resource modules on each screen, including

module color. The console shall display system related messages including emergency calls, patches, and simulselect.

3.9.4.1 Modules

The console shall support and display audio communications modules, where a module is a defined space or box that permits voice communications and control of a given communications resource. A module shall be programmable to support communication with one or more entities, which could include:

- A trunking talkgroup
- An individual call
- A conventional channel
- A radio gateway
- Another console
- Status (inbound data messaging from field units)
- Paging (outbound data messaging)
- Auxiliary I/O (bi-directional data messaging)

The console shall support a minimum of 200 different modules. If a module is in use at one console, a busy indicator shall be displayed at the other consoles in the system. For received calls, an alias (alpha-numeric representation of the user radio) and unit ID shall be displayed in the appropriate module. Each module shall have its own volume adjustment. The console shall be capable of muting individual modules or all unselected modules. The console shall be able to display the call history of a particular module. The call history display shall place the most recent call at the top of a scrollable list of at least five entries. The console shall also be able to display a comprehensive call history for each module including up to the 100 most recent calls.

3.9.4.2 Patches

The console shall support patches, which involves temporarily combining two or more modules. A patch merges the entities into a super group, such that each member hears every other member. All users and groups patched together shall be able to communicate with each other. Super groups created from multiple talkgroups on the same site or simulcast cluster of sites shall consume a single radio talkpath resource for all participants. Each console shall be able to support up to eight (8) active

patches with up to eight (8) participants (talkgroups and/or channels) each. The Vendor shall identify the number of patches that can be preprogrammed and stored.

3.9.4.3 Simulselect

The console shall support simulselect, which involves temporarily summing two or more module outputs at the console position. Simulselect merges the operator's output to simultaneously transmit on the selected modules but does not create a super group. Each console shall be able to support up to three active simulselects with up to six entities each. The Vendor shall identify the number of simulselects that can be preprogrammed and stored.

3.9.4.4 Emergency

During emergency calls, the console shall give both visual and audible alerts. The module and page with the emergency shall be displayed in red. The module and the call history shall display the alias of the unit declaring the emergency. Further, the emergency shall be displayed in the system information panel. If an emergency is declared while a previously declared emergency remains active, the following shall occur:

- a) Same talkgroup: If the original emergency has not been acknowledged, the console shall display a counter with the emergency message to indicate the number of emergencies for the same talkgroup. The declaring alias shall be displayed in the appropriate call history.
- b) Different talkgroup: The new emergency shall be declared and both emergency conditions shall remain active. Both modules shall be red. The declaring alias shall be displayed in the appropriate call history display. The emergency message shall correspond to the most recently declared emergency.

The dispatch console shall be able to declare an emergency and clear an emergency.

3.9.4.5 Alert Tones

A dispatch operator shall be capable of transmitting audible alert tones on a selected module. A minimum of ten distinct alert tones shall be available. The alert tones shall be encoded such that the tones are accurately reproduced on both analog and P25 field units.

3.9.4.6 Conventional Resources

The console shall be able to control compatible conventional stations and trunked control stations. Functions shall include:

- a) Select the station's transmit/receive frequency pair or talkgroup from a pre-defined list.
- b) Enable/disable repeat functions on repeater stations.
- c) Enable scan of selected channels of a multichannel station.
- d) Toggle between main conventional base stations and standby conventional base stations.

The console system shall utilize a high fidelity PCM vocoder that can carry complex paging tones (outbound calls) and preserve voice quality in marginal RF conditions on analog channels. The system shall properly encode calls that are routed to, or include, P25 users.

3.9.4.7 Instant Recall Recorder

The console system shall provide an Instant Recall Recorder ("IRR") function to allow for the quick replay of any call on any un-muted module on the console position. Calls may be selected for replay from the console's call history screen. The IRR shall provide instant access to call audio for at least the previous 30 airtime-minutes of call history. The Proposal shall describe IRR features and capacity.

3.9.4.8 Position Interaction

The console position shall be capable of muting the audio from other console positions. Two console operators shall be able to communicate through an intercom feature. No radio resource shall be utilized during the inter-console communication.

3.10 Simulcast Control and Distribution

The transmission system shall be specifically designed for simulcast operations. The system must include all equipment necessary to distribute time-synchronized voted audio to the transmission sites and provide the required transmitter frequency stability, deviation stability, modulation fidelity, and transmitters launch time synchronization. It is anticipated that the transmit and frequency synchronization system will be GPS disciplined.

The simulcast control and receiver voter/comparator mechanisms shall be redundant and geographically separated. A single "control point", "prime site", or "master station" architecture shall

not be proposed.

3.11 System Protection Features

3.11.1 Redundant Control Equipment

All controller equipment that is necessary to maintain trunking functions, console communications, and simulcast operations shall be redundant and geographically separated. The system shall be configured such that a failure in any critical component, link, or application in the active control equipment shall result in automatic detection of the fault and failover to the redundant equipment as necessary to maintain normal system operations. The fault detection and failover mechanism shall not result in the loss of any system functions for longer than 30 seconds. The Proposal shall describe in detail the architecture of the control equipment, fault detection mechanisms, and failover times.

3.11.2 RF Channel Fault Detection

The P25 system shall continuously monitor for errors and faults in the individual RF base stations. The detection of an error with any base station serving as a trunking control channel shall result in the automatic assignment of an alternate RF channel to takeover all control channel functions. The RF channel group in error shall be removed from service until the fault condition has cleared. Once the fault condition is clear, the RF channel group will be returned to service as a voice channel.

System behavior in the event of errors with voice channels shall be configurable. The system shall support options to remove a complete channel group from service due to a fault with any one base station in the group, or shall be configurable to allow the channel group to remain in service with reduced coverage. The Proposal shall include a description of system configuration options and the ability to set thresholds for intelligent management of RF channel resources during fault conditions.

3.11.3 Status Alarms & Reporting

The Proposal shall include a system alarm, status, and reporting subsystem that will monitor system health and report-status alarms. All alarms and status information shall be delivered to a centralized application and shall include:

- Real-time information regarding system faults
- Real-time information regarding environmental and status alarms
- Alarm classification (critical, major, status, etc.)

- Forwarding of user-selected alarms to email and commercial text devices
- Viewing of alarm history

Alarms at transmission sites shall include:

- Repeater status
- Control channel status
- Status of all data links
- Status of antenna system (VSWR)
- Status of tower top amplifier (if applicable)
- Failure of AC power
- Failure of UPS power
- Site or rack intrusion alarm
- Environmental alarms
- Generator alarms

The Proposal shall include a detailed description all alarm, status, and reporting features.

3.11.4 Interference Protection

The system and equipment offered by the Vendor shall include all necessary devices required to prevent interference to and from system equipment. No base station or control station transmitter in the system shall cause measurable degradation to any receiver in the system. Further, all receivers must operate free of measurable degradation with all co-located transmitters active. System testing will include measurements to demonstrate interference protection.

The design shall include system alignment and optimization in order to minimize simulcast interference in coverage overlap areas. The design review must include predictions of simulcast performance and demonstrate that any interference areas that will remain after system optimization will be positioned in non-critical areas.

3.11.5 System Failure Modes

The Proposal shall include a detailed discussion of all possible system failure modes and shall define the system's operational capabilities and limitations which may result from these failure modes. Particular attention should be paid to the system's ability to remain functional due to the following failures:

- GPS timing system failure

- Master oscillator failure
- Voter/comparator failure
- Interconnection circuit failure
- Transmitter failure
- Control channel failure
- Receiver multicoupler failure
- Tower top amplifier failure
- Simulcast controller failure
- Trunking controller failure

The discussion shall include typical and maximum fault detection and failover times associated with redundant controller equipment. System acceptance testing shall demonstrate that each of these failures results in system recovery within the maximum failover time.

3.11.6 UPS Equipment

All fixed-site equipment provided by the Vendor shall be protected by Uninterruptable Power Supply (“UPS”) devices. The operating load of the equipment protected by the UPS shall not exceed 70% of the UPS capacity, assuming power outage duration of 10 minutes. All supplied UPS equipment shall include alarm features and a by-pass switch for service and maintenance.

The Primary Dispatch Center is equipped with a high capacity UPS system. The Vendor may assume that all console, logging recorder, and system equipment (if any) located at the Primary Dispatch Center will utilize existing UPS equipment. The City will be responsible for any UPS upgrades that may be required to support equipment at this location. The Vendor shall be responsible for UPS protection at the Backup Dispatch Center

3.11.7 Backup Power

The City will provide backup generators at all site, controller, and dispatch locations. Generator status alarms shall be integrated into the system alarm, status, and reporting subsystem described in §3.11.3.

3.12 System Administration Features

The P25 system shall include system administration features to allow trained city staff to manage resources and generate activity reports. The system administration application(s) shall include secure remote access to authorized users. Features shall include:

- Add/remove/modify users
- Add/remove/modify talkgroups
- Modify access privileges
- Unit enable/disable
- Unit status
- User database backup
- Talkgroup structure and configuration backup
- System configuration backup
- System activity reports
- System capacity and airtime utilization reports

The Proposal shall include a description of system administration features and any relevant options.

3.13 Conventional Analog Equipment

3.13.1 Fire VHF

The Asheville Fire Department (“AFD”) maintains a single-site, VHF, analog conventional repeater system located at the Peach Knob site (see §3.7.2). The VHF system is utilized for Knox Box operations, interoperability, and backup communications. The existing base station is at end-of-life and will be replaced under this procurement. The Proposal shall include a complete replacement repeater system (base station, transmission, line, filters, antenna, etc.). The existing antenna system components are highlighted in orange in Attachment 3. If the Peach Knob site is not utilized in the P25 design, the VHF system shall be relocated to the nearest site location as mutually agreed upon by the City and the Vendor.

The repeater shall be integrated into the console system. Existing VHF Knox Box and user equipment will be utilized. The VHF system is considered a one-for-one replacement and shall be engineered to provide equivalent performance as the existing VHF system. There is no specific VHF coverage requirement.

3.13.2 800 MHz Mutual Aid

Two existing NPSPAC conventional mutual aid repeater systems will be replaced. 8TAC91 is located at Lower White Fawn and 8TAC92 is located at Peach Knob. The Proposal shall include complete replacement repeater systems (base station, transmission, line, filters, antenna, etc.). The base stations shall be integrated into the console system. The Lower White Fawn site is not anticipated to be utilized in the P25 design but will continue to host 8TAC91. 8TAC92 will remain at Peach Knob, assuming that Peach Knob is utilized as a P25 site. The existing antenna system components are highlighted in blue in Attachment 3. If Peach Knob is

relocated in the P25 design, the replacement 8TAC92 equipment shall be relocated to a mutually agreeable site facility.

3.14 Integration of Existing Equipment

3.14.1 VIPER Control Stations

Five existing Motorola XTL5000 control stations are dedicated to talkgroups on the VIPER interoperability system. These stations are located at the backup dispatch center and are integrated into the existing console system via tone remote adaptor. These existing control stations and associated antenna systems shall be retained and interfaced with the replacement console system.

3.14.2 Sat Comm

An existing Hughes MSAT G2 repeater is located at the backup dispatch center. The existing station and associated antenna system shall be retained and interfaced with the replacement console system.

3.14.3 Miscellaneous Control Station Gateways

Four Motorola XTL5000 consolettes are located at the backup dispatch center and support various interoperability functions. These existing control stations and associated antenna systems shall be retained and interfaced with the replacement console system.

3.14.4 Computer Aided Dispatch (CAD)

The City utilizes an OSSI Computer Aided Dispatch system from SunGuard Public Sector. The existing CAD system will remain in operation with the P25 radio system. The Vendor shall provide detailed information about CAD interface features and functions and the ability to integrate call information, status messages, and GPS location data into the CAD environment.

3.14.5 User Equipment

The City operates an existing fleet of approximately 850 P25 CAP-certified user radios. The user radios include the following models:

- Motorola XTS2500
- Motorola XTL2500
- Motorola XTS5000
- Motorola XTL5000
- Motorola APX4000
- Motorola APX4500

- Motorola APX6000
- Motorola APX6500
- Motorola APX7000
- Motorola APX7500

The City shall be responsible for alignment and reprogramming of all user equipment for operations on the proposed P25 system. The Vendor shall certify that the existing radio models are compatible with their proposed system and configuration. The Vendor shall provide programming and alignment parameters for each radio model as necessary for operations on the proposed system. The Vendor shall assist with investigations and troubleshooting in the event that user radio compatibility issues are discovered during implementation and system cutover. The system shall include licensing for a minimum of 1500 user radios.

3.14.6 Bidirectional Amplifiers

The City owns and operates a bidirectional amplifier (“BDA”) system in the Municipal Building to enhance coverage performance. A BDA system also exists in the Aloft Hotel in downtown Asheville. The successful Vendor shall inspect these existing BDA systems and determine their suitability for continued operations after system cutover.

3.15 System Interconnection

The City of Asheville will provide an IP backbone for interconnection of transmission sites and dispatch centers. It is assumed that all control equipment will be located at the transmission sites or dispatch facilities. The IP backbone may be a combination of microwave, fiber and T1 circuits. The Proposal shall specify bandwidth, latency, jitter and other relevant requirements and parameters for the backhaul system. The Vendor shall work with the City to develop configuration and integration details for the IP network.

3.16 System Options

The City requests detailed information and pricing for the following system options. The City will determine which (if any) options will be exercised prior to Contract execution. Each option shall be clearly defined and priced in the Proposal.

3.16.1 Fire Station Alerting

An optional Fire Station Alerting (“FSA”) system for 14 fire stations shall be included. The system shall be expandable for a minimum of 20 locations. The FSA system shall support

redundant alerting paths. The primary data path will be an IP network connection provided by the City. The backup path shall be the proposed P25 radio system. The dual data paths shall be fully redundant without the need for manual selection of the RF path in the event of a fault with the primary IP connection. The remote interface device at each fire station shall perform the following functions:

- Activation of house lights
- Operation of bay doors
- Activation of house public address ("PA") system; on demand or with a station alert
- Connection of P25 control station radio audio to the house PA system

All remote FSA functions will be operated via standard dry contact relay. The FSA system will replace an existing Motorola FSA3000 system. The Vendor may assume a one-for-one replacement of relay connections at a prewired, centralized location. The FSA remotes shall be expandable to support future relay functions such as natural gas shut-off and appliance deactivation. Each existing FSA remote includes two Motorola XTL2500 radios. One unit is utilized as an RF modem and one is utilized for standard trunked radio functions. These units may be reused as needed with the replacement FSA system. All remote equipment shall be equipped with battery backup for continued operation upon commercial power failure.

The FSA system shall include two (2) alerting positions at the primary dispatch center and two (2) alerting positions at the backup dispatch center. The FSA system shall also provide a CAD interface allowing the use of the existing OSSI CAD system (see §3.14.4) to perform alerting functions. CAD will serve as the primary alerting method.

3.16.2 Logging Recorder

An optional digital logging recorder system shall be included. The logging recorder shall interface with the trunked radio system and capture radio and console conversations. Playback and reporting interfaces shall include search and filter by date, time, user ID, and/or talkgroup ID. The logging recorder system shall interface with and record all other radio resources connected to the console system including conventional base stations and interoperability control stations. The proposed logging recorder system shall interface with and record all traffic on specified analog and VoIP telephones. The logging recorder system shall include all hardware, interfaces, software, services, and license fees. Logging recorder requirements include:

1. Recording capabilities for the following:
 - Forty-eight (48) P25 talkgroups (including AES encrypted talkgroups) recorded digitally with talkgroup ID and user ID identification
 - Twenty(20) IP phones at the Municipal Building using Cisco Series 79xx VOIP phones with SCCP firmware on a Cisco Call Manager V 9.1/10 (Currently running SCCP)
 - Fourteen (14) analog lines for recording 911 calls at Telecommunicator positions
 - Ten (10) conventional resources including base station radios and control station radios (conventional and trunked)
 - Four (4) client licenses for playback, search, replay archiving, and creation of evidence CD/DVD discs
2. Must be certified by the P25 radio system manufacturer as compatible.
3. The system recording module must support expandable hot swap storage at an initial minimum of 6TB in a RAID 5 disk array.
4. Backup and archiving to external disk/DVD/CD-ROM and offsite network-attached storage.
5. Automated self monitoring and notification of connectivity errors, failure to record, out of storage capacity, database errors, etc.
6. The search and replay application must be capable of searching and replaying all channels at the same time.
7. Replay application should allow remote access between recording system and client stations over LAN for high speed access without needing additional, external hardware or transfer of recordings to third-party hardware.
8. For security and control of chain-of-custody all audio files stored on the recorder must be saved in a format that cannot be played via standard replay applications, such as Windows Media Player, QuickTime, and others. Any solution that stores voice recordings in a standard format (wav, mp3, etc) will not be considered.
9. The system shall provide a user-friendly interface for the creation of CD and DVD media discs containing selected audio streams. These user-created CD and DVD discs will be utilized for court and evidence purposes and shall include an embedded audio player and user interface. The embedded audio player shall operate with Microsoft Windows XP or later and shall include the ability to activate and deactivate individual audio streams during playback. The Proposal shall include a detailed description of available features for the production and utilization of evidence CD/DVD discs.
10. The system shall allow for the export of selected audio streams to distributable formats including wav and mp3.
11. The system must support local and remote upgrades via LAN connection.

3.16.3 Smartphone Gateway

The Vendor is asked to offer a gateway and device application that provides the ability to utilize smartphones, tablets, and personal computers to access radio system talkgroups and

operate as a user radio on the P25 system. The Proposal shall detail the system's ability to interface to 3G/4G wireless commercial networks and the Internet to support P25 calls with Android, Apple iOS, and Windows devices. The narrative shall describe the system's ability to transmit voice, encrypted voice, location, and status between devices and radio users on the network. The narrative shall also describe network security and firewall features. The option should include pricing for all gateway hardware, services, and licensing for 25 user devices. The Proposal shall describe the licensing structure and associated costs for additional users.

3.16.4 Additional Console Positions

Dispatch console requirements are described in §3.9. The Proposal shall include per unit pricing for additional console positions including all hardware, software, licensing, and services.

3.16.5 Additional User Licenses

The system shall include licensing for a minimum of 1500 user radios per §3.14.5. The Proposal shall describe the licensing structure and associated cost for additional users.

3.16.6 ISSI

The Proposal shall include an optional P25-compliant Inter Subsystem Interface (ISSI) to support network-level connectivity with the Buncombe County Cassidian Communications P25 system. The ISSI connection shall support the following minimum feature set:

- Group calls
- P25 Unit ID
- AES encrypted calls
- Emergency calls

The ISSI connection will be utilized to establish mutual aid talkgroups that are common to the Asheville and Buncombe County systems. ISSI configuration tools shall allow for management of resources and capacity on a site, channel, talkpath, and talkgroup basis. The ISSI shall support future upgrades to allow for unit registration and affiliation via ISSI mobility features. The connection must support a minimum of four simultaneous talkpaths. It is understood that the remote system must be similarly equipped with ISSI hardware, software, and licensing. The Vendor shall support ISSI integration with the remote system and shall coordinate with system administrators and equipment providers as needed to facilitate ISSI connectivity, testing, troubleshooting, and optimization.

The ISSI option shall describe the licensing structure and associated cost for additional ISSI talkpaths and system connections.

3.16.7 P25 Data & GPS Location Mapping

The Proposal shall include information regarding options, cost, and capacity impact associated with implementation of P25 data capabilities for GPS tracking of public safety radio units. GPS mapping may be performed with the existing CAD system (see §3.14.4) or a separate mapping application. The Proposal should include mapping options and associated costs if available.

3.16.8 Link Layer Authentication

The Proposal shall include information regarding current or future support of P25-compliant Link Layer Authentication ("LLA") per TIA 102-AACE. The discussion shall include requirements for user radios and methods for supporting legacy user equipment without LLA capabilities. If LLA is provided as a system option, include pricing information.

3.17 Design Reviews

3.17.1 Preliminary Design Review

A Preliminary Design Review ("PDR") shall be conducted no later than 60 days from execution of the purchase agreement. This process shall include a review of the Vendor's preliminary configuration and design documentation for the project. Information to be submitted for the PDR shall include all data required to determine conformance with the requirements of the RFP and contract documents including:

1. A complete narrative description which includes up-to-date information to correctly describe the actual equipment, materials, software, features, and programming comprising the system.
2. Discussion of any configurations and options to be selected by the City.
3. An up-to-date listing of all equipment and software, by site and subsystem, which details all options and how each of the required features and functions will be accomplished.

4. A complete system functional diagram which identifies all major system components and details the system interconnection to clarify system operation for each location. This diagram shall include detailed site block diagrams.
5. Updated coverage prediction maps.
6. All necessary plans, designs, and analyses related to recommend site preparation or site upgrades.
7. Detailed Implementation Schedule and work plans for equipment production, system configuration, installation, implementation, testing, cutover, and final acceptance. The Detailed Implementation Schedule shall provide the major project tasks and include: 1.) the order of execution, 2.) start date, and 3.) contemplated date of completion. The Vendor will track the actual process at such intervals as directed by the City.
8. The City will complete its review of the PDR documentation within 14 days, at which time the City will either issue approval to proceed with the final design or will state the required changes needed to grant approval.

3.17.2 Final Design Review

Once the PDR has been completed and the City has provided approval to proceed with the final design, the Vendor shall prepare for the Final Design Review (“FDR”). The FDR will update all design and contract documents as needed to reflect the final design as agreed upon by the parties during the Design Phase. Any design elements, plans, or drawings requiring review and certification from a licensed professional engineer or architect shall be sealed by a qualified and licensed professional as applicable. An FDR meeting will be conducted to review all FDR documentation. The City will complete its review of the FDR documentation within 14 days, at which time the City will issue a Notice-to-Proceed. Equipment manufacture, delivery, and installation will not begin until the City accepts the FDR documents and issues a formal Notice-to-Proceed to the Vendor. Approval of the PDR and FDR documentation by the City is general in nature and shall not relieve the Vendor of responsibility for the accuracy of its documentation nor for the proper function and performance of the system and system components.

4.0 SYSTEM EQUIPMENT SPECIFICATIONS

4.1 General

The successful Vendor shall be responsible for the system configuration and selection of all equipment necessary to satisfy the requirements of this RFP. All equipment offered shall be of high quality, consistent with the intended function and requirements of the system and compatible with the Vendor's system configuration. Functional requirements and specifications for the requested communications system were provided in Section 3 herein.

4.2 Simulcast Equipment

Transmission equipment shall be specifically designed for simulcast operations. The following general specifications apply to each simulcast channel proposed by the Vendor.

- Transmitter Frequency Stability: 0.001PPM from -30°C to +60°C ambient. Referenced to GPS-disciplined local oscillator frequency standard in simulcast configurations. The difference in transmit center frequency between any pair of simulcast transmitters shall not exceed 1 Hz.
- Transmitter Deviation Stability: The transmitter deviation difference between any pair of simulcast transmitters shall not exceed 1 Hz.
- Transmitter Launch Time and Oscillator Reference: GPS-disciplined

4.3 Base Station Equipment

The transmit/receive sites shall be equipped with top-of-the-line base stations appropriate for the intended function as specified in this RFP. The base station shall be capable of supporting simulcast operations with a high quality of performance, service, and reliability. Base stations shall include native support for P25 Phase 1 C4FM and P25 Phase 1 CQPSK simulcast modulation. Base stations shall be capable of migration to P25 Phase 2 operations via software/firmware upgrades without the need for power amplifier or other hardware replacements.

All base stations shall be capable of operation as a P25 control channel and a P25 working (i.e. voice & data) channel. Any base station that is not currently functioning as a control channel shall be capable of supporting P25 voice and/or data as a working channel. Multiple base stations shall be capable of automatically assuming the role of the control channel in the event of a failure of the active control channel at any site.

The system shall provide the ability to reconfigure individual base stations remotely through a network connection. The Proposal shall indicate the extent to which base station parameters can be configured remotely, and whether this programming is restricted to station parameters or includes firmware/software updates. All system base stations shall include control and management features, which shall be capable of remotely controlling the following functions:

- On-line / Off-line
- Alarm status
- Station Reset
- Programming/Restoring operating parameters

The base stations shall be rated for continuous-duty and shall be mounted in industry-standard 19" equipment cabinets. All equipment shall be FCC type-accepted and Vendors shall provide the FCC type-acceptance numbers in their proposals. The base station shall operate from a nominal 120-volt, 60-Hz source, and shall operate within rated specification from -30°C to +60°C, and to 90% RH at 50°C. All base station equipment including transmitter, receiver, meters, protection devices and any other associated RF devices or assemblies shall be furnished with type "N" or "DIN" connectors as appropriate per the design.

The transmitter output impedance and the receiver input impedance shall be 50 ohms. Suitable devices shall be provided to ensure that impedance changes in the antenna system will not cause changes in the transmitter output power. Each base station shall be provided with appropriate circulators and harmonic filters to minimize the effects of transmitter produced intermodulation and harmonic products. The Vendor shall describe, in detail, the interference protection proposed. All base stations shall be protected from other co-located, in-band and out-of-band transmitters and shall perform normal operation without degradation with all co-site equipment activated.

The system shall provide a method of station identification in accordance with FCC requirements. The base station shall include circuitry and hardware provisions for manually switched local operation for testing and maintenance.

The proposed base station equipment shall meet or exceed TIA/EIA-603, Section 4.2, and the Code of Federal Regulations 47, Part 90, Subpart I for transmitters and TIA/EIA-603, Section 4.1 for receivers. The Vendor's Proposal shall include manufacturer specification information detailing

relevant performance data for:

- Frequency Range
- Frequency Stability
- RF Power Output
- Channel Spacing
- Channel Step
- Frequency Deviation
- Frequency Modulation Type
- Modulation Fidelity
- FCC Emission Designator
- Audio Distortion
- Receiver Sensitivity 5% BER
- Adjacent Channel Rejection
- Spurious and Image Rejection

4.4 Transmit Combiners

It is anticipated that combiners will be utilized for connection of each base station transmitter at a site to a common transmit antenna. Proposed combiners must provide bandpass/band-reject functionality. The combiner output shall utilize a type “DIN” connector. All combiners must be specifically designed for the frequency plan that will be developed. As noted in §3.11.4 and elsewhere, the Vendor’s design must provide adequate interference protection. No transmitter in the system shall cause measurable degradation to any receiver in the system. Further, all receivers must operate free of measurable degradation with all transmitters active. System testing will include measurements to demonstrate frequency compatibility and interference protection.

4.4 Receiver Multicoupler/TTA Equipment

It is anticipated that tower-top amplifiers (“TTA”) and receiver multicoupler systems will be utilized for the connection of each base station receiver at a site to a common receive antenna. All TTA and receiver multicoupler systems must be specifically designed for the frequencies deployed at the site locations. Tower-top amplifiers, if utilized in the design, shall include a test port and test line with controls to disconnect the antenna port and apply a 50 ohm dummy load. TTAs must include a bypass mode or redundant active components. As noted in §3.11.4 and elsewhere, the Vendor’s design must provide adequate interference protection.

4.5 Transmission Line

All antenna transmission lines shall be Andrew Corporation LDF series or equivalent. All transmission lines shall be terminated with type “N” or “DIN” female connectors as needed for the specific

application. The connectors must be constructed of all non-ferrous materials. No coaxial cable splices or adapters shall be utilized.

Jacketed, flexible, foam dielectric cable with solid copper outer conductor shall be used as jumper cables to connect the transmitters and receivers to RF devices, transmission lines, and antennas. Jumper cables for the site receiver circuits shall use a minimum of ¼-inch flexible, low-loss cable. Jumper cables for the site transmitter circuits shall use a minimum of ½-inch flexible low-loss cable. All connectors shall be specially designed for the cable provided and not exceed 0.25 dB insertion loss. In addition, any connectors/connections provided for external installation shall be protected from corrosion and weather damage as recommended by the manufacturer; vinyl tape shall not be utilized. All coaxes shall be labeled on the antenna jumper and at the jumper to the repeater inside of the radio equipment room/area using colored tape so that the antenna system for each repeater can be easily identified at each site. The coax labels/markings for Channel 1 at each site and coax labels/markings for Channel 2 at each site shall be the same at each of the City's repeater sites.

Vendor shall determine the correct transmission line diameter and lengths for installation. All cables must be secured with Andrew Corporation, or its approved equal, stainless steel clamps and hardware. Each cable run shall be provided with a direct path to ground and equipped with lightning/surge protection.

Complete diagrams for each system site installation shall be provided by the Vendor to detail the cable type, placement, connectors used, grounding location, lengths of all cables proposed and the coax labeling scheme.

4.6 Base Station Antennas

All base station antennas shall be rugged and durable units. Fiberglass radome antennas or exposed folded dipole metal antennas can be utilized. If metal dipole antennas are utilized, the antennas should be properly coated/designed to eliminate the possibility of corrosion at the antenna's dissimilar metal joints which could result in non-linear junctions/behavior which is the basis for intermodulation interference. Specific antennas are to be specified by the Vendor, consistent with the proposed configuration. The Vendor or sub-vendor chosen for the antenna installations must be experienced in the installation of base station antennas. The supplier shall furnish all required brackets and mounts to install the antennas. All exposed hardware, mounting brackets, and fasteners must be fabricated from material that will minimize dissimilar metallic junctions and corrosion.

All antennas and transmission lines shall be sweep-tested by the Vendor with a network analyzer prior to or upon installation. Chart recordings of sweep measurements shall be made and retained in the site log. No V.S.W.R. in excess of 1.5:1 is permitted to any fixed antenna/coaxial cable system.

5.0 INSTALLATION, TESTING, MAINTENANCE & WARRANTY

5.1 Equipment Delivery

Equipment delivery and installation will not begin until the City accepts the Vendor's Final Design Review, as described in §3.17, and issues a formal Notice-To-Proceed ("NTP"). All deliveries to the City shall be freight prepaid by the Vendor with no charges or costs to be paid by the City at the time of delivery. All deliveries shall be made to a secure facility maintained at the Vendor's expense or at a secure location mutually agreed upon by the Vendor and the City. Deliveries shall be unloaded by the Vendor or delivery person. Regardless of the place of delivery, the Vendor shall notify the City's Project Manager regarding the date, time, place, and items associated with each delivery within a reasonable time prior to the date and time thereof; provided, if the Vendor cannot determine the date and time with reasonable certainty, then the required notice shall be given within 24 hours following the delivery.

The City shall have the right, but not the duty, to make inspections with regard to each and every item delivered. The delivery of radio system components shall not constitute partial or conditional acceptance of the system or any of its components by the City.

5.2 Installation

5.2.1 Installation Criteria

Installation of all materials and equipment must meet FCC and EIA industry standards in all respects with specific attention given to applicable City Codes, Fire Codes, and Electrical Codes and to the methods employed for wiring, cabling, terminations, cable and wire labeling, documentation, wire codes, equipment room layouts, antenna installation, general appearance and operating performance. All installations shall further utilize electrical grounding and lightning protection methodology per Motorola R56 or similar best practices. If the installation of any material or equipment covered under this procurement requires a licensed tradesman to design and/or to perform the installation task, the Vendor shall utilize a licensed and qualified professional to perform said task.

The Vendor shall be responsible for the cost of repairing or bringing to original condition existing City facilities that may suffer damage during the course of system installation, to include floors, walls, ceilings, roofing, grounds, landscaping, pavement, antenna structures, vehicle interiors, vehicle exteriors, etc. The Vendor and all sub-vendors shall also completely

remove from the premises all packaging, crates, and other litter due to their work.

With its proposal, the Vendor must describe installation plans and procedures and indicate the supporting organizational structure, listing specific qualifications of personnel and job functions proposed to complete the system installation.

5.2.2 Installation Procedures / Implementation Schedule

Vendor shall provide adequate, technically competent, factory-trained personnel to install all equipment and features supplied for this system. All installation activities shall be coordinated with City's Project Manager. During the installation, no circuits or equipment shall be removed, adjusted or disconnected by the Vendor without prior authorization by the City.

The Vendor shall work in as judicious a manner as possible. Vendors shall include in their Proposals an Estimated Implementation Schedule, with major milestones listed and specifying those items required of the City to complete implementation. This schedule shall include a timeline of all the tasks proposed by the Vendor. This schedule shall include all configuration, installation, testing, and integration tasks to be completed by the Vendor and its sub-vendors. During the Final Design Review, the selected Vendor shall submit a Detailed Implementation Schedule with an established cutover date.

The selected Vendor shall install the system, equipment, and associated support devices without any interruptions to the ongoing operations unless a planned interruption is specifically agreed upon by the City.

All equipment installations shall utilize best industry practices for radio frequency equipment. The Vendor shall furnish and install lightning and AC surge protection at all radio base stations and control equipment locations. Each antenna supplied for this system shall incorporate lightning protection. All antenna transmission lines shall be grounded 1.) at the antenna base, 2.) at the base of the antenna tower, if applicable, and 3.) at the point of entry to the shelter or building that houses the system equipment.

The electrical service for all system equipment shall be protected by transient voltage surge protection devices. All equipment cabinets and/or racks shall be connected to site ground with #2 AWG solid copper conductors. The grounding wire for the cabinet shall be attached to the equipment rail with a star washer. All equipment cabinets within the same room shall be

connected with their grounding line at the site's single-point grounding plate. This site grounding plate shall have low impedance, less than 5 ohms, to earth ground.

All interconnecting wiring shall originate/terminate at telephone type punch blocks. All punch block connections shall be made via bridging clips. Complete point-to-point wiring drawings shall be made and incorporated into the as-built system documentation.

5.3 Acceptance Testing

5.3.1 General

Upon completion of the system installation, and before final acceptance by the City, the Vendor shall perform the following tests and submit the results to the City, in writing:

- A. On-site inspection of completed system installation, with all deficiencies corrected
- B. Equipment tests and verification of equipment performance
- C. Formal demonstration of operational system features, including failover functions, as described herein
- D. Coverage verification test
- E. Thirty-day performance and stability test

Detailed test procedures for each of the system tests shall be submitted for approval to the City at least thirty (30) days before each test is scheduled to be performed. The City will approve, conditionally approve, or reject the test plan within fourteen (14) days of submittal.

Tests will not be considered valid tests unless the test plan has received prior approval and the tests are monitored by the City or designated agent. The City reserves the right to disapprove any tests or test results which do not conform with agreed upon procedures and pass/fail criteria. If disapproved, it shall be the sole responsibility of Vendor to modify, correct, or repeat any such disapproved tests or test results to the satisfaction of the City and at no cost to the City.

All tests, excluding the 30-day performance test, shall be coordinated in advance with the City's Project Manager and shall be conducted during normal working hours, Monday through Friday, from 8:00 A.M. to 5:00 P.M.

5.3.2 System Installation Compliance

Vendor shall conduct an on-site inspection of all system facilities with the City prior to execution of the various test plans. This inspection shall demonstrate that all system components have been delivered and installed at their proper location. The inspection shall demonstrate that all mechanical installation requirements have been completed and all equipment has been properly connected to electrical service, properly grounded, and all signal, coaxial, and data cables have been connected to the equipment. Any discrepancies or issues impacting system performance must be corrected by the Vendor prior to execution of the various system tests. Minor issues may be added to a punch list for correction prior to Final Acceptance. Final equipment placement and connections shall be reflected in the as-built documentation.

5.3.3 Equipment Tests

All performance parameters for the equipment supplied shall be tested and documented to confirm that the equipment and performance specifications are met. Equipment tests include but are not limited to:

- Frequency error
- Transmitter output power
- Combiner output power
- Modulation fidelity
- Receive antenna system optimization
- Receiver sensitivity
- Effective sensitivity
- Transmit-to-receive isolation

Antenna system components shall be tested prior to (or upon) installation and verified after completion of installation.

5.3.4 System Operational Tests

The system shall undergo a complete operational test to demonstrate all system features and functions including but not limited to:

- P25 Required Features and Functions
- Relevant P25 Standard Options
- Proprietary Features and Functions (if any)
- Console Features and Functions
- Failover and fault recovery
- Features and functions associated with any selected system options
- Backhaul connectivity
- System administration features

5.3.5 Coverage Verification Tests

The Vendor shall propose a coverage verification testing methodology which is sufficient to demonstrate compliance with their coverage guarantee. As described in §3.6.5, the testing methodology shall be consistent with TIA/EIA TSB-88-C methods and should produce repeatable and statically significant results. Details concerning the Coverage Verification Test process and procedures will be agreed upon prior to execution of the Contract. If the Coverage Verification Tests reveals that the coverage requirements have not been satisfied, the Vendor will be responsible for performing necessary system modifications/enhancements at no cost to the City.

5.3.6 Thirty-Day Performance Test

Following successful completion of all other testing and demonstrations, the system shall undergo a successful 30-day performance test under full operational load without a major fixed-equipment failure. Vendor will specifically authorize, in writing, the City to operate the system during this 30-day performance test period without voiding or violating any provisions of the Contract.

All existing equipment reprogramming and/or reconfiguration performed by Vendor under this procurement shall be completed prior to the initiation of the 30-day performance test in order that the test can be conducted under full operational load.

During the 30-day performance test, the City may operate the system in any mode desired and perform any operational, control, or modification function within the normal operational limits of the system. Vendor will not adjust or make repairs to the system during the performance test

period without stopping the 30-day test. For the duration of 30-day performance test period, no major system failures may occur. A major system failure is defined as any failure which reduces the availability of the system, or part thereof, including reduction in performance and failure of equipment. Major failures include:

Trunking Control Failures:

Any system conditions which cause the trunking system to cease normal operations or fail to perform correct commands will be considered a major system failure, excluding any failure that is the direct result of networking components supplied by the City. Any failure event which causes the system to revert to fallback mode of operation such as "Site Trunking" or conventional "failsoft" shall be classified as a major failure. The failure of a redundant control component shall not be considered a major failure if the system maintains normal operation without the loss of capacity, coverage, or normal call processing and the failed device can be restored to normal operation within 24 hours.

Simulcast Control Failures:

Any system conditions which cause the simulcast timing, simulcast distribution, or receiver voting system(s) to cease normal operations or revert to a non-simulcast mode shall be classified as a major failure, excluding any failure that is the direct result of networking components supplied by the City. The failure of a redundant control component shall not be considered a major failure if the system maintains normal operation.

Base Station Failures:

If three or more base station transmitters or receivers simultaneously fail or are inoperable for any reason a major failure will be deemed to have occurred. A failure of up to two base stations is not considered a major system failure, unless the problem cannot be corrected within 24 hours.

If at any time during the 30-day test period, four base station transmitters or receiver failures (regardless of frequency or location) have occurred, although less than three were inoperative at a time, a major failure will be deemed to have occurred and the 30-day performance test will be stopped.

Console Failures:

If the console system's common electronics fails or is inoperable for any reason, a major failure will be deemed to have occurred. The failure of a single console position is not considered a major system failure so long as the failure does not impact other console positions and the problem is corrected within 24 hours. If at any time during the 30-day test period, two console positions have failed, although only one position was inoperative at a time, a major failure will be deemed to have occurred and the 30-day performance test will be stopped.

In the event of a major failure, the test will be stopped, the fault shall be corrected, the City shall be notified of the nature of the failure and all corrective action taken, and a new 30-day performance test period shall begin. After three unsuccessful attempts, Vendor will be considered in default of the Contract. If the 30-day performance test cannot be successfully completed within 120 days after the initial start date, Vendor may be deemed in default of the Contract. Upon default, the City may, at its option:

1. enforce the provisions of the performance bond
2. enforce any other remedy available under law

5.3.7 Punch List

Throughout the inspection and testing process, failures and issues shall be placed on a "punch list" to track and document necessary resolution. All punch list items shall be resolved prior to Final Acceptance. The City may agree to carry a minor number of punch list items beyond Final Acceptance. In such case, the parties will agree upon the value of open punch list items, which will be withheld until such time that the punch list items have been fully resolved.

5.4 Documentation

Vendor shall supply, with system delivery, complete system documentation including equipment maintenance and operations manuals. This documentation shall include all project-specific and pertinent plans, wiring lists, operating instructions, parts/equipment/serial number lists (by location), system block and level diagrams, circuit schematic diagrams, alignment and calibration procedures, printed circuit board layouts, maintenance charts and tables, and a listing of all equipment and devices required to test and certify the complete system. As-built documentation, final parts/equipment lists, and serial number lists must be supplied a minimum of 30 days prior to overall system acceptance. All fixed sites must have an operations/maintenance manual and as-built

documentation at the site covering all electronic equipment installed at the site. Vendor shall also provide brochures and technical specification sheets for all other products furnished. In addition, three sets of documentation and manuals shall be supplied to the City.

5.5 Training

Vendor shall provide formal system training for the City's operational, training, and management personnel. This training shall provide the City's staff with a working knowledge of the system operation and hands-on system experience.

All training shall occur immediately prior to the 30-day test and acceptance of the system and shall be conducted at the mutual convenience of Vendor and the City. The Vendor shall describe the proposed training programs for:

1. Dispatch personnel
2. City's Training Staff
3. Systems Management Staff
4. Any off-site training required or recommended

The proposed training program shall thoroughly address the radio system furnished. The training program description shall include Vendor's training staff, training methodology, documentation, schedules, curriculum, and media used. Training expense, if any, shall be separately listed for each of the training programs requested above.

The Vendor's Proposal shall assume that all console training will be performed in the City of Asheville utilizing the console equipment provided under this procurement. The City is proposing a "train the trainer" approach for up to three staff members, which will be trained as a group. The Vendor's Proposal should include a description of the proposed console training program.

5.6 Final Cleaning & Equipment Removal/Disposal

Prior to requesting Final Acceptance, Vendor shall clean the work areas to the satisfaction of the City. The final cleaning includes the removal of all non-permanent protection materials from labels and glass surfaces, polish glass, clean exposed finishes, touch up minor finish damage, clean or replace filters of mechanical systems, remove packing materials and debris, and any other cleaning or repairs necessary to return the work areas to an acceptable condition.

At the time of the Contract negotiations, the City will define the scope of the equipment removal and disposal associated with this Project. The Vendor will provide a price for these services after the scope has been agreed upon and all site locations have been inspected by the Vendor. These services may include the removal of radio equipment, cables, transmission lines, antenna systems and mounting hardware, batteries, etc. that are identified by the City for removal and disposal. The Vendor shall provide these services in compliance with all applicable environmental and safety regulations. The ownership of all removed materials will be transferred to the Vendor at the time of removal/disposal.

5.7 Final Acceptance

Final Acceptance shall not be requested by the Vendor until all acceptance testing, training, and documentation have been accepted by the City of Asheville and all required equipment and services have been delivered.

5.8 Initial Warranty and Maintenance

The Proposal shall include an initial warranty and maintenance period of not less than one (1) year. The initial warranty and maintenance coverage shall protect all equipment and services delivered under the Contract from defects in operation, design, materials, and workmanship. If the Vendor's equipment is covered by a manufacturer's warranty in excess of one (1) year, the length of the included warranty term shall be clearly specified in the Vendor's Proposal. Any and all restrictions and/or limitations to warranty coverage should be clearly defined in the Vendor's Proposal.

The 1st year warranty and the maintenance periods shall begin upon Final Acceptance of the system as specified herein. This Initial Warranty and Maintenance service shall be provided on a 24-hour day, 365-day a year basis with a response time not to exceed four hours. The Vendor's warranty shall warrant and guarantee further that the equipment furnished hereunder is of good workmanship and materials and that the same is properly designed, operable and equipped for the proposed use by the City and is in strict conformity with the equipment and performance specifications and the applicable Contract documents. Vendor shall be responsible for any needed warranty actions including all parts and labor, travel and all other expenses required to deliver a whole and operational system as described in the RFP. The Vendor shall state the procedure and methodology for obtaining system repairs during the warranty coverage period.

5.9 Extended Maintenance and Support

The Vendor shall provide in its Proposal an optional Maintenance Service Contract (including parts, labor, and software maintenance) for the system and all equipment provided under this procurement to extend for five-year periods following the Initial Warranty and Maintenance Period. A minimum of two five-year periods (total of 10 years of extended maintenance/support) shall be offered. Where the Vendor proposes to secure a separate service agreement for specified system components, it shall enter a separate line showing the price estimate for such service. Any and all restrictions and/or limitations to the pricing provided for the extended maintenance support should be clearly defined in the Vendor's Proposal. These restrictions and/or limitations could include, but are not limited to, deductibles, service call costs, response times, after hour response, etc.

For hardware maintenance, the Vendor must include a proposed maintenance contract. For software maintenance, the Vendor must describe the availability of routine technical support, after-hours emergency support, and their policy for providing software upgrades and enhancements. All required software maintenance contracts must be included for review.

All recurring costs which may exist in addition to hardware and software maintenance shall be included in the optional Maintenance Service Contract. Recurring costs are to include any annual licensing fees, or other fees, associated with the system other than normal operational expenses and supplies.

Any optional system monitoring services should also be described and priced.