

**CITY OF NEWTON
PURCHASING DEPARTMENT**

CONTRACT FOR FIRE AND POLICE DEPARTMENT

REQUEST FOR PROPOSALS:

**LAND MOBILE SIMULCAST RADIO SYSTEM FOR NEWTON
POLICE & FIRE
*RFP #22-75***

Proposal Due Date: May 19, 2022 at 10:00 a.m.

APRIL 2022

Ruthanne Fuller, Mayor

CITY OF NEWTON
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LAND MOBILE SIMULCAST RADIO SYSTEM FOR NEWTON POLICE & FIRE

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CITY OF NEWTON
PURCHASING DEPARTMENT
REQUEST FOR PROPOSAL #22-75

This City of Newton Request For Proposals (RFP) invites sealed proposals from Contractors for

LAND MOBILE SIMULCAST RADIO SYSTEM FOR NEWTON POLICE & FIRE

Proposals will be received until **10:00 a.m., Thursday, May 19, 2022** at the Purchasing Department, Room 108, Newton City Hall, 1000 Commonwealth Ave., Newton, MA 02459. Immediately following the deadline for bids all bids received within the time specified will be publicly opened and read aloud.

Contract Documents will be available online at the City's website: www.newtonma.gov/bids after: **10:00 a.m., April 14, 2022**. Proposers are responsible for downloading the specifications from the City's web site at www.newtonma.gov/bids . Proposers are requested to email the Purchasing Department (purchasing@newtonma.gov) their Company Name, Address, Email address, Phone & Facsimile number and what bid # (i.e. 22-75) they have downloaded.

The Newton Police Department (NPD) and Newton Fire Department (NFD)(collectively, the "Departments") currently rely on an analog FM simulcast radio system that utilizes 4 pairs of FCC licensed UHF frequencies to support primary voice communications between fixed-end and mobile/portable equipment used by public safety personnel. Portions of this radio system are old and obsolete and require modernization and upgrade to new technology. The Departments are seeking proposals for the supply and implementation of various improvements to UHF two-way voice mobile radio communications systems which they currently own and use. The specific land mobile simulcast radio system solicited in this RFP is described in the Scope of Services at pp. 9-33 below. This Scope of Services shall define the winning proposer's obligations to the City under its contract.

This is an RFP for a specific project. The contract shall be in effect until the delivery and implementation of the land mobile simulcast radio system modernization and upgrades are complete.

As this is an RFP, proposers shall submit a technical, or non-price proposal and a price proposal. There is no specific form for the Technical Proposal, although it should be responsive to all information requests made in the RFP, and should be submitted with the Technical Proposal 22-75 Cover Sheet, attached. The Price Proposal shall be submitted on the Price Proposal #22-75form included in this RFP.

All proposals shall be submitted as (i) for the Technical Proposal, one (1) ORIGINAL, and three (3) COPIES, and one (1) DIGITAL COPY and (ii) for the Price Proposal, one COPY. Proposers' attention is directed to the requirements of the City of Newton Supplemental Equal Employment Opportunity, Anti-Discrimination and Affirmative Action Program and also to the Minority/Women Business Enterprise Plan, December 1999, all of which are hereby incorporated into the Contract Documents. In the event of conflict between any of the above listed policies, the stricter policy shall apply.

All City of Newton bids are available on the City's web site, www.newtonma.gov/bids It is the sole responsibility of the contractor downloading these bids to ensure they have received any and all addenda prior to the bid opening. Addenda will be available online within the original bid document as well as a separate file. If you download bids from the internet site and would like to make it known that your company has done so, you may fax the Purchasing Department. (617) 796-1227 or email purchasing@newtonma.gov with your NAME, ADDRESS, PHONE, FAX AND INVITATION FOR BID NUMBER.

The City will reject any and all proposals in accordance with the above referenced General Laws. In addition, the City reserves the right to waive minor informalities in any or all bids, or to reject any or all proposals (in whole or in part) if it be in the public interest to do so.

CITY OF NEWTON



Nicholas Read
Chief Procurement Officer
April 14, 2022

**CITY OF NEWTON, MASSACHUSETTS
PURCHASING DEPARTMENT**

**REQUEST FOR PROPOSAL (RFP) NO. #22-75
LAND MOBILE SIMULCAST RADIO SYSTEM FOR NEWTON POLICE & FIRE**

I. DECISION TO USE COMPETITIVE SEALED PROPOSALS

The *Chief Procurement Officer* has determined that in order to select the most advantageous proposal for the modernization and upgrade of the Land Mobile Simulcast Radio System For Police & Fire (hereinafter referred to as “Services”), comparative judgments of technical factors, in addition to price, will be necessary.

The City or Newton (City) believes that while low price is a factor in selecting the most advantageous service provider, it is also important that the City be able to consider the proposer’s experience in providing similar Services to municipalities like Newton, that the City be able to evaluate the proposer’s methodology and staffing, the proposer’s ability to deliver the services needed, and the effectiveness of the proposer’s record of its success in providing such services. The City’s ability to weigh these factors is best achieved by procuring Collection Services through a Request For Proposals (RFP).

II. INSTRUCTIONS TO PROPOSERS

A. GOVERNING LAW and DEADLINE FOR SUBMISSION: All proposals must be submitted in accordance with Massachusetts General Laws Chapter 30B, Section 6, to the *Chief Procurement Officer* in the Purchasing Department, Newton City Hall, 1000 Commonwealth Avenue, Newton, MA 02459, no later than **10:00 a.m., May 19, 2022**.

B. **A responsive proposal shall consist of two parts: (i) a Technical Proposal made up of one (1) original, three paper (3) copies, and one (1) digital copy and (ii) one (1) paper copy of a Price Proposal. The Technical Proposal and the Price Proposal shall be submitted in separate sealed envelopes.**

The original and copies of the TECHNICAL PROPOSAL and the one PRICE PROPOSAL must be submitted in **SEPARATE SEALED ENVELOPES**.

Envelopes shall be marked:

“TECHNICAL PROPOSAL - RFP #22-75 “LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE”

AND

“PRICE PROPOSAL - RFP #22-75 “LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE” along with your firm’s name on both envelopes. If a Price Proposal is included in the Technical Proposal, the proposal may be rejected.

Where information is requested, proposals must provide it in the same order of the as requested in this RFP and identify the page number of the RFP that relates to the information response.

Faxed proposals will not be accepted.

B. QUESTIONS: Inquiries involving procedural or technical matters must be received in writing, at least 72 hours prior to proposal submission to:

purchasing@newtonma.gov or facsimile (617) 796-1227

Nicholas Read, *Chief Procurement Officer*

All additional information shall be put into the form of an Addendum. Each addendum will be posted on the City’s website under the document #22-75 and will be emailed to those listed on the Bidders’ list as having received (picked-up or downloaded) the RFP.

If you have downloaded the RFP, please be sure to email us (purchasing@newtonma.gov) your Name, Address, Phone and what RFP number you have downloaded.

ADDENDA: Proposer shall acknowledge any/all addendum(s) on the first line of their Transmittal Sheet of their Technical Proposal, as well as on the designated line provided in the Price Proposal.

C. EXAMINATION OF DOCUMENTS: Each proposer shall be satisfied, by personal examination of the location of the contemplated services and by any other means, as to the requirements of the contemplated services to enable the intelligent preparation of this proposal. The proposer shall be familiar with all RFP Documents before submitting the proposals in order that no misunderstanding shall exist in regard to the nature and character of the contemplated services to be performed. No allowance will be made for any claim that the proposal is based on incomplete information as to the nature and character of the area or contemplated service.

D. TIMELINE:

RFP Released : April 14, 2022
Deadline For Questions : April 25, 2022
Addenda w/Answers : April 29, 2022
Proposal Submittal : May 19, 2022

E. PROPOSAL FORMAT: All proposals shall follow the order of this RFP. All proposals shall have a table of contents denoting, for each item, which page it can be located on. All proposals shall have footers with page numbers.

III. EVALUATION OF PROPOSALS

There will be no public opening of submitted proposals. Following the deadline for receipt, the *Chief Procurement Officer* will open the Technical Proposals and prepare a register of those firms submitting proposals which shall be available for public inspection. All proposal contents shall be confidential until the evaluation is final and award has been made.

The Technical Proposals shall be evaluated by an Evaluation Committee; the Evaluators shall prepare their evaluations based on the criteria contained herein.

Any proposer submitting a proposal must satisfy all the **Minimum Criteria, below. Proposals that do not demonstrate compliance with the Minimum Criteria shall be rejected as non-responsive. All proposals not rejected as non-responsive shall be evaluated based on the five (5) Comparative Criteria below.**

The City reserves the right to waive any informalities in any or all RFPs, or to reject any or all RFPs, if it be in the public interest to do so. The City reserves the right to request site visits and demonstrations of existing vendor operations.

Upon completion of the evaluation of the responsive Technical Proposals, the *Chief Procurement Officer* will open and evaluate the Price Proposals. A contract will be awarded to the responsive and responsible proposer whose proposal is determined to be most advantageous taking into consideration cost and evaluative criteria. The City reserves the right to reject any and all proposals and to award a contract as determined to be in the best interests of the City.

All proposals shall remain firm for ninety (90) calendar days after the proposal opening.

IV. MINIMUM CRITERIA

Any proposer submitting a proposal for the Services must satisfy all the Minimum Criteria.

Proposals that do not demonstrate compliance with the Minimum Criteria will not be further considered.

The City reserves the right not to consider a proposal unless the proposer has completed and signed the following attached forms:

Technical Proposal 22-75 Cover Sheet

Bidder's Qualifications And References Form

Certificate of Tax Compliance

Certificate of Non-Collusion

Certificate of Foreign Corporation (if applicable)

Debarment Letter

IRS Form W-9

Business Category Information Form

To the extent that a Minimum Criterion requires the certification of fact, the proposer's certification as to that fact shall be an adequate response provided, however, that on request the proposer shall provide to the City such evidence as the City may request to support that fact.

V. COMPARATIVE EVALUATION CRITERIA

The evaluation of each proposal for Land Mobile Simulcast Radio System For Police & Fire Program will be based upon the "Comparative Evaluation Criteria" described in this section. The following scale will be used to rate each evaluation criterion, as well as to determine a composite rating of each proposal:

- "Highly Advantageous"
- "Advantageous"
- "Not Advantageous"
- "Unacceptable"

An "Unacceptable" rating in any one of the criteria will eliminate a proposal from further consideration.

(1) *Proposal Submission was completed with all details as required by City Purchasing and as detailed in Submission Instructions section.*

- a. Unacceptable: Proposer did not meet these requirements
- b. Advantageous: Proposer met or exceeded the minimum requirements specified.

(2) *Proposal Section – Technical Requirements*

- a. Highly Advantageous
 - i. Vendor has exceeded the technical requirements set forth in section 5 of the Land Mobile Radio System RFP.
 - ii. Vendor has provided four or more references of systems installed in the New England Region which are substantially like the City's Land Mobile Radio RFP and utilize the proposed technology.
 - iii. Vendor is a Manufacturer of RF equipment, OR a factory authorized dealer, with factory certified technicians under their employment for installation of proposed RF equipment.
- b. Advantageous
 - i. Vendor has met all technical requirements set forth in section 5
 - ii. Vendor has provided two or more references of systems in the New England Region which are substantially like the City's Land Mobile Radio System
 - iii. Vendor is a Manufacturer of RF equipment, OR a factory authorized dealer of proposed RF equipment, with factory certified technicians under their employment for installation of proposed RF equipment.
- c. Not Advantageous
 - i. Vendor has not met all technical requirements set forth in section 5, however, some of those requirements were met. Where their equipment was deficient, vendor explained the limits of their equipment and how it would be unable to meet all the City's requirements.
 - ii. Vendor has one or less references of systems installed in the New England Region
 - iii. Vendor is not a factory authorized dealer, manufacturer, or does not have factory certified technicians under their employment or is utilizing a subcontractor for these services.
- d. Unacceptable
 - i. Vendor is unable to meet all technical requirements set forth in section 5.
 - ii. Vendor did not provide any references.

- iii. Vendor is not a factory authorized dealer, manufacturer, or does not have factory certified technicians under their employment or is using a subcontractor.

(3) Proposal Section– Installation

- a. Highly Advantageous
 - i. Vendor has exceeded the installation requirements set forth in section 6 of the Land Mobile Radio System RFP.
 - ii. Vendor has provided four or more references of systems installed (with photos of prior install work) in the New England Region which are substantially like the City’s Land Mobile Radio System and utilize the proposed technology.
- b. Advantageous
 - i. Vendor has met all installation requirements set forth in section 6
 - ii. Vendor has provided two or more references of systems installed in the New England Region (with photos of prior install work) which are substantially like the City’s Land Mobile Radio System
- c. Not Advantageous
 - i. Vendor has not met all installation requirements set forth in section 6, however, some of those requirements were met. Where their installation was deficient, vendor explained the limits of their equipment and how it would be unable to meet all the City’s requirements.
 - ii. Vendor has one or less references of systems installed in the New England Region and did not provide photos.
- d. Unacceptable
 - i. Vendor is unable to meet all installation requirements set forth in section 6.
 - ii. Vendor did not provide any references or photos.

(4) Proposal Section – Service, Warranty, and Maintenance Proposal

- a. Highly Advantageous
 - i. Vendor has exceeded the requirements set forth in section 6 of the Land Mobile Radio System RFP.
 - ii. Vendor offers more than one year warrantee on all equipment installed starting on date of acceptance.
 - iii. Vendor is located within 25 Mile Radius of City (as measured from 1000 Commonwealth Ave)
- b. Advantageous
 - i. Vendor has met all installation requirements set forth in section 6
 - ii. Vendor offers a one-year warrantee on all equipment starting on date of acceptance.
 - iii. Vendor is located within 50 Mile Radius of City (as measured from 1000 Commonwealth Ave) and within the State of Massachusetts.
- c. Not Advantageous
 - i. Vendor has not met all installation requirements set forth in section 6, however, some of those requirements were met. Where their response was deficient, vendor explained the limits of their response and how it would be unable to meet all the City’s requirements.
 - ii. Vendor offers less than a one-year warrantee or warrantee does not start on date of system acceptance.
 - iii. Vendor is greater than 50 miles outside of City (as measured from 1000 Commonwealth Ave) and not located within the State of Massachusetts but borders MA
- d. Unacceptable
 - i. Vendor did not include warrantee information, service, or maintenance proposal.

(5) Proposal Section – Project Management & Scheduling

- a. Highly Advantageous
 - i. Vendor has exceeded the Project Management & Scheduling requirements set forth in section 7 of the Land Mobile Radio System RFP.
 - ii. More than 3 project references of similar or like systems were provided for the Project Manager identified.
 - iii. Project Schedule as requested in RFP is projected to be completed in 6 or less months.
- b. Advantageous
 - i. Vendor has met the minimum requirements in the Project Management & Scheduling requirements set forth in section 7 of the Land Mobile Radio System RFP.
 - ii. 3 project references of similar or like systems were provided for the Project Manager identified

- iii. Project Schedule as requested in RFP is projected to be completed in 6 to 12 months.
- c. Not Advantageous
 - i. Vendor has not met all requirements set forth in section 7, however, some of those requirements were met.
 - ii. Vendor has one or less references of systems installed in the Commonwealth
 - iii. Project Schedule as requested in RFP is projected to be completed in 12 – 18 months.
- d. Unacceptable
 - i. Vendor is unable to meet all technical requirements set forth in section 5.
 - ii. Vendor did not provide any project management references.
 - iii. Vendor did not provide a timeline projection.

VI. EVALUATION OF PROPOSALS AND AWARD OF CONTRACT

The contract will be awarded to the proposer offering the most advantageous proposal, taking into consideration all evaluation criteria as well as price. Any proposals, which submit a price that is abnormally low or high, as determined by the City, may be rejected as unrealistic. All proposals shall remain firm for ninety (90) calendar days after the proposal opening.

In evaluating Proposals, the City will consider the qualifications of only those proposers whose proposals are in compliance with the prescribed requirements. The City reserves the right to reject any proposal if the evidence submitted by, or the subsequent investigation of such proposer fails to satisfy the City that the proposer is properly qualified to carry out the responsibilities set forth in the Scope of Work.

Upon award, the selected proposer and the City shall enter into a contract substantially similar to that attached hereto.

VII. RULE FOR AWARD

1. The contract shall be awarded to one proposer submitting the most advantageous proposal, taking into consideration price and the evaluation criteria set forth in the RFP.
2. The contract(s) will be awarded within ninety (90) days after the proposal opening. The time for award may be extended for up to 45 additional days by mutual agreement between the City and the apparent most advantageous responsive and responsible proposer(s).

VIII. INDEMNIFICATION

The Contractor acknowledges and agrees that it is responsible as an independent contractor for all services provided under this Agreement and for all the acts of its employees and agents hereunder and agrees that it will indemnify and hold harmless the City and its agents and employees from and against all claims, damages, losses and expenses, including attorney's fees arising out of, or resulting from, the performance of the services to be performed under this Agreement.

END OF SECTION

LAND MOBILE SIMULCAST RADIO SYSTEM FOR NEWTON POLICE & FIRE

Scope of Services

Overview

The City of Newton (City), Massachusetts is a city 7 miles west of the City of Boston, with a population of approximately 90,000 people and an area of approximately 18 square miles. The Police and Fire Departments currently rely on an analog FM simulcast radio system that utilizes 4 pairs of FCC licensed UHF frequencies to support primary voice communications between fixed-end and mobile/portable equipment used by public safety personnel. Portions of this radio system are old and obsolete and require modernization and upgrade to new technology.

Purchase Description

Suppliers are invited to respond to this Request for Proposal (RFP) for the supply and implementation of various improvements to UHF two-way voice mobile radio communications systems owned and used by City Fire and Police Departments.

Definitions

The terms "supply", "furnish", "provide", "furnish and install", and "install", shall be interpreted within the context of this document to mean furnish and install, completely, in place and ready for service, the proposed system equipment. Supplier, Contractor, and Responder shall be interpreted within the context of this document to mean entities responding to this Request for Proposal (RFP) who intend, if selected, to enter into a contract with the City to provide the equipment and services they are proposing in response to this RFP.

Intent & Scope

It is the goal of this solicitation to replace aging components of the existing fixed radio infrastructure for the City Fire and Police Departments with newer technology to allow these agencies to reliably continue their critical voice communications now and in the future.

The City desires the supply and installation of fixed base station radio equipment which is capable of the following:

1. Supports high quality analog voice communications initially and can support digital communications in the future without requiring complete replacement of the supplied equipment.
2. Supports simulcasting of 4 separate UHF channel transmit frequencies from up to 4 existing fixed locations within the City simultaneously.
3. Automatic selection (voting) and retransmission of the best received audio from mobile and portable transmit frequencies received on any of the 4 UHF channels at any of (4) simulcast transmit/receive sites plus an additional (5) existing satellite receiver sites via an Ethernet IP network.
4. Voting operation shall be furnished and installed in a redundant configuration.
5. The system shall be supplied and operate with a summing of audio between dispatch and subscribers.
6. The existing Zetron IP Fire Station Alert system at each Fire House shall be synchronized with the new over the air radio system so as not to have excessive delay that will cause information to be missed or garbled.
7. The new radio system shall be fully compatible with the existing Police Motorola MCC7500 and the Fire Zetron Max consoles systems. The Contractor shall be responsible for any updates or level adjustments to these systems to insure error free use of each dispatch system.
8. Fully compatible with the Fire Department's and Police Department's existing inventory of mobile and portable equipment.
9. Remotely monitoring through a centrally located monitoring system the status of the installed radio and network equipment and other external inputs/outputs (e.g., door alarms, temperature alarms, smoke alarms, etc.) at each of the transmit/receive sites and the receive only satellite sites.
10. Centralized configuration, control, and monitoring of all installed systems.

The existing two-way mobile radio voice systems are supported by an infrastructure comprised of communications elements **owned by the City. Among them are existing radio equipment, antenna sites, dispatch centers, IP based Ethernet transport facilities, etc. The City seeks to leverage the use of these existing elements to the greatest extent possible** in the upgrade of their radio systems. The City of Newton seeks RFP responses that propose the reuse of any of its existing equipment that may already reflect current technology to the extent possible, and repurposing to the City of Newton's benefit any equipment replaced during the radio system upgrade on a site-by-site basis as described more fully herein.

The City seeks a single, qualified, and experienced prime contractor who can meet or exceed the requirements of this document, and who can furnish the goods and services on a turn-key basis. Interested responders are requested to submit a response to the complete system, sub-system, equipment, and installation requirements specified in this document.

Preparation Costs

The City appreciates the time and effort expended by respondents in preparing their response, however, neither the City nor its representatives shall be liable for any expenses incurred in connection with the preparation of the response to this RFP.

Submission Instructions

Overview

To facilitate and expedite the evaluation process, it is requested that response contents be organized and presented as directed below.

The response may be deemed to be non-responsive and automatically disqualified, at the City's discretion, if the response fails to comply with the instructions of this entire sub-section.

Manner of Submittal

Responses shall comply with all the submission requirements of this sub-section and with those contained elsewhere in the RFP. Original signatures of all signed documents are required in the 'ORIGINAL' copy of the response only.

No oral, telegraphic, facsimile or e-mail responses will be accepted, unless otherwise provided herein.

Each printed-copy of the response shall be submitted in a 3-ring binder and all sections shall be divided by the use of numeric index tabs.

General Material and Labor Requirements

The Contractor shall provide all materials and labor necessary for the execution and completion of work included herein, including delivery to the sites. Unless otherwise specified, all materials incorporated in the permanent work shall be new and shall meet the requirements of this RFP. Workmanship and materials shall be of good quality.

The Contractor shall be prepared to include any or all statements made in their proposal response in a final contract for equipment and services. Exceptions to the RFP requirements may be taken for reason at the discretion of the City. However, the inability to contractually guarantee any statement made or specification met shall not be allowed.

All material furnished and work completed shall be subject to inspection by the City. Such inspection shall not relieve the Contractor of the responsibility of furnishing the best labor and materials in strict accordance with the specification.

If, within one year after acceptance, any material or work previously approved is later found defective, it shall be replaced without cost to the City. Notwithstanding such inspection, The Contractor will be held responsible for the acceptability of the finished work.

The Contractor shall promptly remove from the premises all materials and work condemned by the City as failing to meet the contract requirements, whether incorporated in the work or not. The Contractor shall promptly replace and re-execute his own work in accordance with the contract, without expense to the City, and shall bear the expense of making good all work within a reasonable time or the City may remove it and may store or dispose of the materials and equipment at the expense of the Contractor.

The labor required to execute the work shall be performed by individuals qualified to do the work, in a competent manner. The assurance of the quality of workmanship for the work is the responsibility of the Contractor and any subcontractors. The Contractor shall, if requested by the City, remove from the job site any employee whom the City determines to be incompetent or undesirable.

The City will inspect all work and has authority to stop work whenever necessary to insure the proper execution of the contract. The City's Project Manager also has authority to reject all work and materials that do not conform to the contract, and to decide questions that arise in the execution of the work.

Pre-Work Submittals

The Contractor's Project Manager shall submit for approval, a list of proposed submittals and a tentative schedule of all proposed drawings and specification sheets called for by the requirements of this RFP.

The drawings shall establish and show the actual details of the work; indicating the proper relation to adjoining work; amplify details of all general and electrical equipment in proper relation to verified physical spaces; and incorporate minor changes of design or construction to suit actual conditions. Fully describe all materials and equipment to be incorporated into the project, including manufacturer's specifications and special detailed information.

The City will review the drawings and specification sheets submitted in accordance with the drawings list and submittal schedule and return to the Contractor in a timely manner. The City's review of the drawings is for general design information only and is not a complete check on the method of assembly, erection or construction.

Proposals shall contain a detailed equipment list [model numbers, description, etc.] by location and include details of requirements needed for the installation and operation of their equipment as deemed necessary.

Response Organization

At a minimum, the response shall be organized using the following index sections. Additional sections can be used at the discretion of the responder.

TABLE OF CONTENTS

COVER LETTER

- On company letterhead.
- Letter shall be signed by duly authorized representative.
- At a minimum, acknowledge receipt of addenda.
- Immediately following the cover letter include all required signature forms.

TAB 1 - BRIEF EXECUTIVE OVERVIEW (no more than 6 pages)

- Introduction of the prime offeror's company including history, qualifications, and experience, main line of business, how and when business is organized (corporation, partnership, public, private, etc.). Please include the Address of company (primary place of business); Dun & Bradstreet number; Tax identification number; Business Classification (See Appendix H) Size of company, including the number of employees; Provide a current Certificate of Insurance; Recent or pending mergers, acquisitions or IPO's; and a Financial profile of company, which should include current number of customers with similar programs, and most recent annual report or comparable audited statements.
- Identify all subcontractor(s) by listing name, address, phone and contact person.
- Introduction of the subcontractor(s) including history, qualifications, experience, main line of business, how business is organized (corporation, partnership, public, private, etc.).
- State whether the prime offeror has worked with the subcontractor(s) in the past. If so, provide brief descriptions on: the project(s) (no more than 3); the system elements; the scope of each subcontractor's responsibility; the approximate start date and duration of the project.

TAB 2 - RFP (High Level)

- Bulletized rather than narrative format is preferred.
- Follow the major element listing of Tab 10 below.
- Outline the work to be performed by the prime offeror by identifying all major project tasks.
- Outline the work to be performed by each subcontractor by identifying all major project tasks. Group all work by each subcontractor.
- Identify the anticipated responsibilities of the Company.

TAB 3 - POINT-BY-POINT RESPONSE

- Unless indicated otherwise a point-by-point response shall be presented in this section.
- Note that some sections may not require a response.
- All point responses shall not be out of numeric sequence.
- Any section that is not included in this response will be deemed to have been accepted and agreed to by the offeror.
- Every response shall be identified by the corresponding RFP section number. Reiteration of the RFP section text is at the discretion of the responding offeror. If the offeror chooses to reiterate the text, for ease of reference, the text of the vendor's response in this section shall use a different colored font.

- If there are any exceptions, clarifications and/or substitutions (E/C/S); identify each item clearly as an exception, clarification or substitution.
- When identifying E/C/S, it is not necessary to playback the entire text of a particular section or subsection, however, for ease of reference, you may use portions of the RFP text, if necessary.
- For clarifications or substitutions, provide an explanation of the difference between what the RFP requested and what will be supplied by the offeror. Offerors shall explain why they believe their method of accomplishing the requested functionality will be equal or better for the City.
- For exceptions, provide the reason.

TAB 4 - TECHNICAL SYSTEM INFORMATION

- Include a detailed itemized list and quantities, in matrix form, of all equipment supplied and their intended installed location. Do not include costs. Intended locations shall appear as columns on the matrix.
- Include equipment catalog or specification sheets.

TAB 5 – DRAWINGS & DIAGRAMS

TAB 6 - PROJECT SCHEDULE(S)

TAB 7 - CONTRACTOR’S PROJECT MANAGER INFORMATION

- This section shall contain all the information requested in Section 0 (“Contractor’s Project Manager”).

TAB 8 – WARRANTY/LIFE CYCLE

- This section shall contain all the manufacturer’s standard commercial warranties and product projected life cycles for all RF transmitter and receivers as well as network monitoring equipment.

TAB 9 - LIST OF REFERENCES

- For each prime responder or subcontractor proposed for each one of the major elements of this RFP, provide a list of three (3) references that have elements with similar requirements to those of this RFP.
- The references identified shall have accepted elements within no less than six (6) months and no greater than two (2) years from the due date of this response.
- Include a brief description of the element, approximate date of acceptance, contact name and telephone number.
- The major elements of this RFP are defined as follows:
 - Simulcast System
 - Base/Repeater Stations
 - DC Power Systems for the Simulcast Transmit Sites
 - UPS Systems for other sites as noted in the Technical Requirements

TAB 10 – PAYMENT PLANS

- This section shall contain information on payment plans offered.

TAB 11 – FINANCING OPTIONS

- If vendors wish to offer alternative financing options, they shall be included in this section with a brief description of the offered option.

Additional Requirements

I. Information to Be Furnished by the Contractor

The Contractor shall submit a project schedule that shows the order in which the Contractor proposes to carry out the work, with dates at which the Contractor will begin the distinct segments of the work, and estimated dates of completion of the distinct segments. The Contractor’s Project Manager shall update the project schedule as necessary and upon the City’s request.

II. Shipping and Storage Requirements

The City does not have adequate storage space for any equipment prior to its installation. The Contractor shall provide storage for all equipment to be provided under this SOW. Such storage shall be available throughout the duration of the project in accordance to the Contractor’s installation schedule.

All equipment and components shall be delivered to the installing contractor's location. Notwithstanding the details presented in this Statement of Work, it is the responsibility of the Contractor to verify the correctness of the material lists and the suitability of the devices proposed, to meet the intent of these specifications.

All removed and replaced equipment shall be moved by the Contractor to a location within the City at a location designated by the City.

All packaging of material shall conform to good packing practices to protect against any possible shipping damages. Delivery shall be made to ensure that the system is installed in accordance with the project schedule.

Charges for freight, express, cartage, or packing shall not be paid by the City.

III. Responsibilities

The City of Newton Responsibilities

The City will be responsible to:

1. Provide an Ethernet connection to each of the sites from the existing dispatch location at Police HQ and backup location at Fire HQ. The connection will be brought to a point within twenty feet of the designated radio equipment location.
2. Provide new antenna systems with lightning protection and bring the transmission line connection point to within twenty feet of the RF equipment location.
3. Perform electrical wiring to DC Plant –circuit at Ober, Turnpike and Waban.
4. Perform electrical wiring to UPS systems –at Fire Stations 1 and 7 (except at NWH and Prospect)
5. Perform electrical wiring of 2nd UPS at Police HQ.
6. Install UHF antenna and GPS Antenna –Fire #7 (1).
7. Securing space for existing Waltham Parks Dept MTR station.
8. Grant reasonable requests for access to facilities and field equipment, on a non-interfering basis with prevailing operations.
9. Exercise contract authority over procurement, installation, testing and system acceptance.
10. Accept the completed system, upon Contractor demonstration of compliance.
11. Operate the completed system.

Contractor Responsibilities

The Contractor shall be responsible for:

1. Obtaining all permits and licenses pertaining to the system implementation including any changes that may be required to the existing FCC licensing of the radio system The Contractor will be required to provide all parameters, certifications, and other information necessary to obtain such permits and licenses.
2. Providing all equipment for the entire system, regardless of the manufacturer.
3. Installation of equipment at all sites
4. Removal of existing equipment not otherwise credited by the Contractor and return to the City-designated location.
5. Providing all engineering and planning related to system design, procurement, installation and cut-over and developing a cut-over plan for the System.
6. Providing all as-built drawings for the system and system interfaces.
7. Performing new equipment burn-in, bench-testing and adjustment prior to installation.
8. Demonstrating the performance and operation of all systems, subsystems, and field equipment.
9. Providing an operational overview of the System by manufacturer's system engineering department.

10. Providing all system, subsystem, and field equipment operation and maintenance manuals. The importance of high-quality maintenance manuals cannot be overstated; sample manuals shall be submitted with the proposal.
11. Providing a minimum one-year written warranty on all parts, material, workmanship, and labor related to system, subsystem, and field equipment maintenance from date of acceptance.
12. All software defects identified within the warranty period shall be addressed within 30 days of the issue.
13. Resolving latent design and/or hardware defects, should they become manifest only after system acceptance.
14. Direct access to manufacturer's technical service bulletins, software updates and technical resources during the warranty and operational support period.
15. Providing coordination between subcontractors to assure the following: a quality system; timely delivery; and a working system; and to assure that all contractual commitments and warranty commitments are met.
16. Any cables installed shall be functionally labeled showing their function and connection points on each label.
17. Provide Racks/Cabinets required where existing are insufficient.
18. Install UHF antenna and GPS Antenna –Fire #7 (1).

IV. Power and Space Requirements

The Power requirements are detailed under the responsibilities and site details contained in this document. It shall be the responsibility of the Contractor to inform The City of any power or space requirements different from those already existing at each of the equipment locations following site inspection.

V. Documentation/Maintenance Technical Information

For each type of equipment supplied, The Contractor shall provide three (3) sets of operational/maintenance manuals, both electronically and hard copy.

VI. Protection of Work and Property

The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the City's and/or any other property from injury or loss arising in connection with the Contract. The Contractor shall adequately protect adjacent property as provided by law and the Contract Documents.

VII. Software Licenses

Licensed Software

The Contractor shall provide to the City the computer programs (the Software) and other materials related thereto, delivered to the City as part of the SOW. The Contractor shall provide all necessary licensing for the delivered software, including applications software, operating systems software, communications software and other software and firmware and related specifications, documentation, and technical data therefore, provided by the Contractor hereunder, whether licensed or sublicensed to the City by the Contractor or licensed to the City by a subcontractor.

Third Party Software

1. The Contractor shall, at no additional expense, secure and administer for the City, any and all necessary sublicenses or direct licenses for Third Party Software. The Contractor shall identify all the supplied Third-Party software. The Contractor represents that all of the Third-Party Software identified or referenced in the proposal is standard, commercially available products, and that the associated licenses therefore are perpetual in duration.
2. Notwithstanding the terms of the Third-Party Software license agreements, The Contractor shall remain primarily liable to the City for all of The Contractor's obligations under this Contract, excluding those obligations specifically identified in subsection (3) below.

In addition, the terms in such Third-Party Software license agreements, which may be inconsistent with the provisions of this contract, shall in no way limit the Contractor's obligations hereunder. Accordingly, such license agreements may not be used by the Contractor to (1) explain or otherwise limit any of the provisions of this Contract, or (2) relieve the Contractor from its obligations under this Contract.

3. The Contractor shall furnish to the City of copies of all documentation provided by third party software suppliers to the Contractor's work in the development of the City's systems.

4. Except as otherwise provided in the Third Party Software license agreements, and as required by subsection 3., above, the Contractor shall not be required to furnish to the City: 1. Source Codes for the Third Party Software; 2. The right to make copies of the Third Party Software in addition to those supplied by The Contractor; 3. The right to modify the Third Party Software; or 4. The right to disclose the Third Party Software to third parties.

VIII. Final Acceptance

Final Acceptance includes successful completion of all testing defined in the Acceptance Test Plan; a 30-day reliability test period; delivery, installation, and programming of all fixed equipment; delivery of all manuals and other documentation; completion of all "punch list" items; and completion of required training.

Technical Requirements

I. Overview

The following sections provide the basis for the design, fabrication, and delivery of fully technology-based voice radio systems. The Contractor's proposed system shall furnish all equipment, installation services, and optimization requested in this RFP. The Contractor will assume complete responsibility for equipment, services, and system acceptance tests provided under this RFP. The proposal shall address the entire system to ensure the delivery of a complete turnkey system; it shall not be necessary for the City to purchase any additional equipment and/or services to make the proposed system fully operational.

The overall system shall be fully feature & function compatible with the new base/repeater station equipment to be furnished or any existing station equipment to be upgraded, under this RFP.

The response shall state the make and model of the system and equipment components being offered. Additionally, the response shall state the current life-cycle age of the system and equipment components being offered and the projected end of the product's life-cycle, if any.

II. Major Work Elements

The City expects to operate an analog conventional FM simulcast radio system to provide primary voice communications between fixed-end and mobile/portable equipment used by public safety personnel. This radio system expects to have of four simulcast transmit sites (Waban Hill, Ober, Fire HQ, Turnpike) with an additional four sites (Newton Wellesley Hospital, Prospect, Fire Station #1, Fire Station #7) of satellite receivers only. Additionally, there is an existing site used by Police only at Herrick Road (former Andover Newton Theological School Campus) as a satellite receiver site.

Contractors should also plan in its filtering designs for any potential interference between Fire Channels 1 and 2 and have adequate rejection so as not to have any desense or mixing causing impacts to either channel.

The Police and Fire Departments will retain the use of their existing mobiles and portables.

The response shall include a description of the offered solution(s).

Responders are to present pricing for the primary and any alternatives offered. Additional system capability desired over and above the existing capabilities:

- Control of new simulcast system (see Section 0)
- Voted Summed Audio
-

III. Electrical & Mechanical Design Requirements

General

The system shall be state-of-the-art and microprocessor based and, to the greatest extent, shall use a modular design approach using a distributed multi-processor architecture and employ digital audio processing technology.

The system's features, functions and other operating parameters shall be stored in electrically alterable non-volatile memory technology and shall be field tailorable via client applications on a local PC or via the IP network.

To the greatest extent, all system assemblies and sub-assemblies shall be shielded to minimize electromagnetic interference that may be caused to/by electrical equipment co-located and/or adjacent to this system.

If the proposed system requires complete replacement of the central simulcast control and console interface equipment all central electronic components shall be housed in shelves and/or chassis suitable for mounting on standard 19" EIA open equipment racks not exceeding a height of 84". The number of racks shall be kept to a minimum. At Waban Hill, the racks are not a standard height. Newton uses manufacturer CPI Rack 46353-702 at this location to sit properly under the cable tray.

Power System

The system shall be powered from an external source supplying a nominal 120 VAC at 60 Hz, single-phase power supplying power to the DC Power Plants required at the Tx/Rx Simulcast sites, or to AC powered Uninterruptible Power Supplies at the satellite receiver and Headquarters sites as specified herein.

Power losses, restorals, surges, sags and/or brownouts shall not alter the system's software and/or operating parameters. Other than total power loss or lethal surges, the system shall remain fully operational within the specifications of its design while experiencing any of these occurrences.

If the offered system platform is based on a central electronics type of architecture, the power sub-system of the central electronics shall consist of hot-standby power supplies or hot-parallel power supplies.

If hot-standby power supplies are provided, the transition from the primary to the standby power supply shall not cause the system to lose and/or reset any of its functional and/or operational capabilities.

All system operators shall be alerted of the transition to the standby power supply and shall also be alerted of the failure of the hot standby power supply when the primary power supply is in use.

If hot-parallel power supplies are provided, failure of one of the supplies shall not cause the system to lose and/or reset any of its functional and/or operational capabilities.

All system operators shall be alerted of the failure of any one of the parallel power supplies.

Reliability & Diagnostics

A high degree of reliability is required from the radio system. The system, to the greatest extent possible, shall:

- Be self-healing.
- Provide continuous and automatic self-testing and diagnosis.
- Provide a high degree of modularity to reduce the number of sub-systems affected by a single component failure.
- Provide an alert to all system operators in the event of component or sub-system failure.
- Provide the ability to track multiple vendors SNMP traps and ping monitor devices on the network. Contractor shall configure any MIB tables required to allow SNMP traps to be sent to City of Newton Network Monitoring Systems and provide documentation on the configuration of the Tables.
- Allow continued operation, in the event of a sub-system failure, through isolation of the defective sub-system
- Allow continued operation through repair and/or replacement of the failed sub-system.

The system shall be equipped with the necessary software and hardware to allow for the simultaneous interface to a local and remote client applications running on a personal computer (PC) for events such as reprogramming system parameters, system monitoring, identifying sub-system failures, capturing system use data and for making service related inquiries.

System Management

The system shall be equipped with the software and hardware necessary to allow for configuration and management of all system parameters.

Interfaces

Simulcast Transmit/Receive Sites

The system shall be equipped to pass all audio, monitoring, and control communications between central equipment located at the Fire and Police Headquarters and each of the simulcast transmit/receive sites via an IP based network over Ethernet connections provided by the City of Newton at each location.

Auxiliary Satellite Receive Sites

The system shall be equipped to pass all audio, monitoring, and control communications between central equipment located at the Fire and Police Headquarters and each of the auxiliary satellite receive sites via an IP based network over Ethernet connections provided by the City of Newton

Simulcast System

General

It is the intent of this section to describe the performance requirements for furnishing and installing a replacement 4-channel, UHF conventional, narrowband, analog, simulcast radio system to primarily serve the City. The system will have Ethernet network interconnection to receiver voting and central control and monitoring sub-systems located at the Departments.

The City is currently licensed on four (4) existing UHF channels that will continue in use in the new simulcast system. All FCC licensing work, if required, will be the responsibility of the Contractor.

Any portions of the existing radio system which are retained shall be fully feature & function compatible with the equipment to be furnished under this contract.

The system shall be fully feature & function compatible with the existing control stations, mobiles, and portable radio equipment retained by the Departments.

Radio Communications Performance

General

The City seeks to upgrade or replace its existing UHF analog conventional simulcast radio system equipment with current technology that provides radio communications equal to or better than the existing UHF radio equipment. If upgraded or replaced components result in the system failing to meet the radio communications performance requirements specified, any and all additions, changes, modifications, improvements, enhancements, etc., to the configuration of the radio infrastructure in order to meet the stated performance requirements shall be the responsibility of the contractor at the contractor's expense.

Antenna Systems

As part of the upgrade/replacement effort, the City of Newton is responsible for providing new antenna systems that include the antennas, transmission feedlines, and lightning protection. This responsibility includes providing all mounting structures and hardware, installation, and initial sweep testing of the transmission lines and antennas. The City of Newton will terminate the transmission lines at connection points within twenty feet of the RF equipment location at each site.

The Contractor shall be responsible for re-verifying the sweep testing results of the transmission lines and antennas prior to connecting the radio system equipment to the transmission lines and identifying to the City of Newton, any issues found that could adversely affect the radio system performance.

Effective Radiated Power (ERP)

The adjustment of radio transmitter power up to the maximum FCC licensed ERP at each site shall be performed by the responder as required to meet the system performance and regulatory requirements.

The ERP per-frequency for all system sites shall not exceed the maximums specified in the FCC licenses.

Frequencies

The frequencies currently licensed for the simulcast system are detailed in the following FCC licenses:

- WQDG877 – City of Newton Fire Department
- KZA726 – City of Newton Police Department
- KYD496 – City of Newton Fire Department

Upgrade/Replacement Requirements

Overall, the Contractor is responsible for complete replacement and/or upgrade of the existing radio equipment system components to current technology at each of the sites and the main and redundant controller systems at Police and Fire Headquarters as detailed in this RFP. Here, upgrade means upgrade of software in existing hardware components and any minor hardware upgrades needed to bring the existing hardware components up to date with the manufacturer's currently offered products. Replacement is taken to mean complete removal of existing hardware and replacement with new equipment of current technology.

The Contractor has the option of proposing appropriate upgrades to portions of the City of Newton's existing radio system equipment where feasible or proposing a complete replacement of the equipment at a given site. Note that in either case, the Contractor is responsible for overall system operation in accordance with these requirement specifications. Thus, any replacement must include replacement of equipment not specifically identified in this RFP as may be required to maintain overall compatibility of the radio system with the equipment upgraded or replaced at the sites, and for retaining the functionality of the complete radio system in place today.

In general, the Contractor will be responsible for upgrading/replacing the following equipment at each type of site:

Transmit/Receive Simulcast Site:

1. UHF Analog Simulcast Base Station Transceivers and associated cabinet(s) for the 4 UHF channels (2 FD and 2 PD). Transmitters shall be self-contained in one housing; external power amplifiers shall not be utilized.
2. Duplexers, circulators, splitters, preselectors / filtering, isolators, multicouplers, jumpers, etc. – all the antenna system components leading up to the lightning arrestor terminating the antennae and transmission cables supplied and installed by the City
3. Network connected Site Manager and Remote Terminal Units for controlling and monitoring the site equipment and alarms.
4. GPS based Time Reference for Simulcast
5. DC Power System for powering the site equipment
6. Network and Power System Surge Suppression components

Receive Site:

1. UHF Analog Simulcast Base Station Receivers and associated cabinet(s) equipped with ground bars for the 4 UHF channels (2 FD and 2 PD)
2. Multicouplers, preselectors/filtering, jumpers, etc. – all the antenna system components leading up to the lightning arrestor terminating the antennae and transmission cables supplied and installed by the City of Newton
3. Network connected Site Manager and Remote Terminal Units for controlling and monitoring the site equipment and alarms.
4. GPS based Time Reference for Simulcast Receivers
5. DC Power System for powering the site equipment
6. Network and Power System Surge Suppression components

The City shall provide a Network switch and an Ethernet connection to each radio site. The Contractor is responsible for providing all cabling between the Ethernet connection and the radio system equipment.

The Contractor is responsible for clearly identifying in their proposal a list of what specific equipment will be upgraded or replaced at each site across the entire radio system.

Base/Repeater Stations – Simulcast

General

It is the intent of this section to describe state-of-the-art base/repeater station equipment. The equipment shall be comprised of a radio transceiver, wireline remote-control interface, antenna sub-system components up to the City provided lightning arrestor, associated accessories, and user functions and controls.

The stations will be used to support a 4-channel simulcast radio system that will provide two simulcast channels for the NFD and 2 simulcasted channels for the NPD.

The units shall be of current production, of early life-cycle age, and be capable of withstanding the operating environment associated with existing radio site locations provided by the City.

The units shall be fully feature & function compatible with the existing NFD and NPD mobiles and portables as well as existing dispatch console equipment, neither of which are being replaced or upgraded under this contract. Each dispatch site has 4-wire interfaces to their consoles. All audio connection/interfaces must be via the use of IP conversion and audio bridging devices between the radio system and the console equipment.

The units shall be fully feature & function compatible with the new field equipment to be furnished, and existing field equipment to be upgraded, under this contract.

The response shall state the make and model of the station being offered. Additionally, the response shall state the current life-cycle age of the station and the projected end of the product's life-cycle, if any.

Quantities

New Equipment and Upgrades

The quantities of new replacement equipment and upgrades shall be as required to satisfy the simulcast system coverage and performance requirements of this document.

In addition to the new equipment and systems furnished under the contract, the following list of spare equipment shall also be provided:

- Furnish 2 simulcast base/repeater station transceivers, less installation.
- Furnish 2 satellite receiver stations, less installation
- Furnish 1 receiver multicoupler, less installation.
- Furnish 2 complete receiver preselectors/filtering, less installation.
- Furnish 1 cabinet fan kit.
- Furnish 1 complete DC power sub-system, less battery bank.
- Furnish 1 Site Manager/Remote Terminal Unit
- Furnish 1 receiver voting comparator
- GPS Time Reference

Regulatory Compliance

All equipment offered that requires compliance under Part 90 of the FCC Rules & Regulations shall be type accepted. Base Station Electrical & Mechanical Design

Base Station Minimum Specifications

General

Parameter	Requirement
Type	Repeater station; T1-R1.
Frequency Band	UHF 450-470 MHz
RF I/O Impedance	50 ohms, nominal.
Temperature Range	-30C to +60C, fully operational.
Input Power	Nominal VDC positive ground source.
Operating Mode(s)	Conventional Only.

Parameter	Requirement
Conventional Mode(s)	Analog, Digital P25 (future)
Transmission Mode(s)	Half & full duplex.

Transmitter

Parameter	Requirement
Frequency Range(s)	State in the response.
Channel Bandwidth(s)	12.5 KHz Narrowband (NB) & 25 KHz Wideband (WB).
Frequency Stability	State in the response.
RF Power Output	100 watts, minimum, adjustable. State in the response the adjustable power level thresholds.
Duty Cycle	Continuous operation rated.
Modulation – Analog Mode	FM
Modulation - Digital Mode	State in the response (C4FM, CQPSK, etc.).
Spurs & Harmonics (NB–D)	State in the response.
Spurs & Harmonics (WB–D)	State in the response.

Receiver

Parameter	Requirement
Frequency Range(s)	State in the response.
Channel Bandwidth(s)	12.5 KHz Narrowband (NB) & 25 KHz Wideband (WB).
Max. Frequency Separation	State in the response.
Sensitivity (NB–Analog)	State in the response.
Sensitivity (NB–Digital)	State in the response for 5% BER.
Selectivity (NB–Analog)	State in the response.
Selectivity (NB - Digital)	State in the response.
Spurious Response (NB–Analog)	State in the response.
Spurious Response (NB–Analog)	State in the response.
IM Rejection (NB–Analog)	State in the response.
IM Rejection (NB–Digital)	State in the response.

Antenna Sub-Systems

General

The antenna sub-system equipment required to interface to the antennas at each site shall be specified by the responder as required to meet the system performance and regulatory requirements stated in this specification.

Transmit Antennas

Supply and installation of transmit antennas and their configuration at each site is the responsibility of the City. The responder shall review and recommend any changes in quantity, antenna model(s), and mounting height(s) to be used at each site to achieve expected performance with their proposed site equipment. If directional antennas are recommended, also state the maximum gain azimuth.

Receive Antennas

Supply and installation of receive antennas and their configuration at each site is the responsibility of the City. The responder shall review and recommend any changes in quantity, antenna model(s), and mounting height(s) to be used at each site to achieve expected performance with their proposed site equipment. If directional antennas are recommended, also state the maximum gain azimuth.

Feedlines & Accessories

Main Cable

Supply and installation of all antenna feedlines at each site is the responsibility of the City unless otherwise noted in the requirements.

Jumper Cables

Jumper cables from the main antenna feed lines to the base stations and antennas shall be 1/2" Super flexible as manufactured by the Andrew Corporation or approved equivalent or as otherwise specified in these technical requirements.

All jumper cable connectors shall be type 'N' or 7/16" DIN as required to interface to the Contractor's proposed Site RF equipment and the lightning arrestor demarcation points provided by the City.

Interconnect Cables

Field installed interconnect cables between base stations and other devices shall be of the double-shielded type. To the greatest extent, all interconnecting RF cable connectors shall be male type 'N' or 7/16" DIN as required to interface to the Contractor's proposed Site RF equipment.

Ground Straps

Feedline ground straps shall be furnished and installed by the City.

Coupling, Filtering & Protection Devices

General

These types of devices shall be furnished as required to meet the system performance and regulatory requirements, if any, stated in this specification; and as required for protection to/from existing radio systems collocated at the site. To the greatest extent, these devices shall be 19" EIA rack mountable.

Transmitter Combiner

The choice of any transmit combining components and their configuration at each site is left to the responder with the requirement that components shall be compatible with the transmit antennas furnished by the City and the Site RF equipment proposed by the Contractor.

For each site, responders shall state in their response the make and model of the devices being offered.

Receiver Multicoupler

The choice of multicoupler and its configuration at each site is left to the responder with the requirement that any components supplied shall be compatible with the receive antennas furnished by the City and the Site RF equipment proposed by the Contractor. Selection of the multicoupler shall be subject to the following conditions:

- The use of tower-top type of pre-amplifiers is not acceptable.
- The device shall be of a design that can be easily expanded in the field.
- All multicoupler port connectors shall be type 'N', 7/16 DIN, or 'BNC'.
- The multicoupler shall be 19" EIA rack mountable.
- If the device is of an active design, the unit shall be powered from the primary power source provisioned at the site.
- If the device is of an active design, the unit shall be equipped with either a dry-contact , RS-232 serial, or Ethernet network connection alarm output capability suitable for interfacing to an external remote terminal unit, which shall be interfaced into the Network Monitoring System (NMS). The multicoupler shall be furnished with all necessary cabling, mounts and necessary hardware for a complete installation.

For each site, responders shall state in their response the make and model of the devices being offered.

Intermodulation Suppression

Each transmitter shall be equipped with a triple-circulator intermodulation-suppression device. The device shall include dummy loads and harmonic filter.

All device connectors shall be type 'N' or 7/16 DIN.

If these devices are not an integral part of the transmitter or of the transmitter combiner, they shall be mounted on a panel or tray suitable for 19" EIA rack mounting.

For each site, responders shall state in their response the make and model of the devices being offered.

Simulcast Components

General

- These components shall be furnished, as required, to meet the system performance requirements stated in this specification.
- To the greatest extent, these components shall be GPS supported.
- To the greatest extent, these components shall be 19" EIA rack mountable at each location.
- The components shall be powered from the primary power source provisioned at the site.
- The components shall be equipped with either dry-contact, RS-232 serial, or Ethernet network connection alarm output capability suitable for interfacing to an external remote terminal unit.
- The components shall be furnished with all necessary cabling, mounts and necessary hardware for a complete installation.
- The response shall include a brief description of each component and how they interconnect and interact with one another to achieve simulcasting. Additionally, indicate where single points of failure vulnerabilities exist in each individual component, and when the components are integrated and functioning together as a simulcast control sub-system. Include a simple, single-line block diagram illustrating all of the components and their interconnections.

High-Stability Frequency Reference

- Each simulcast radio site shall be equipped with high-stability frequency reference equipment.
- The equipment shall be of a redundant dual-oscillator design.
- The primary oscillator shall be of the 'atomic' type. The response shall state the type offered.
- The equipment shall be of a design that can be easily expanded in the field.
- Responders shall state in their response the make and model of the equipment being offered.

Receiver Audio Comparison

- Each simulcast frequency shall be equipped with a received audio voting comparator.
- Comparator shall not share any of its common electronics with any other simulcast system comparator to avoid a single point of failure.
- The comparator shall be of a design that can be easily expanded in the field.
- Responders shall state in their response the make and model of the comparator being offered and to what extent is redundancy available in these units. Address both inherent and optional redundancy.

Transmit Audio Distribution

- Each simulcast channel shall be equipped with transmit audio distribution equipment.
- Distribution equipment shall not share any of its common electronics with any other simulcast system distribution equipment to avoid a single point of failure.
- The equipment shall be of a design that can be easily expanded in the field.
- Responders shall state in their response the make and model of the equipment being offered and to what extent is redundancy available in these units. Address both inherent and optional redundancy.

Simulcast Control and Synchronization

Each simulcast channel shall be equipped with simulcast control and synchronization equipment.

Simulcast control and synchronization equipment shall not share any of its common electronics with any other simulcast system equipment to avoid a single point of failure.

The equipment shall be capable of the following:

- Control the amplitude of the transmitted radio signal from each base/repeater station.
- Control the phase of the transmitted radio signal from every base/repeater station.
- Control the timing and synchronization of the transmitted audio signal from every base/repeater station.

The equipment shall allow for controls to be made from a central location without any manual intervention at station sites. The equipment shall be of a design that can be easily expanded in the field.

Responders shall state in their response the make and model of the equipment being offered, and to what extent is redundancy available in these units and address both inherent and optional redundancy.

Additionally, the response shall provide a description of how radio signal amplitude, phase and timing are controlled from a central location.

DC Power Sub-Systems at Transmit/Receive Simulcast Sites

General

All TX/RX simulcast base station transceiver sites, and their applicable antenna sub-system equipment shall operate from a single, external primary power system supplying nominal, positive ground VDC. To the greatest extent, the City prefers the use of -48 VDC. However, in those instances where the offered equipment cannot be powered by -48 VDC, -24 VDC operation can be offered.

Battery Charger/Rectifier

- The power system shall be comprised of a battery charger/rectifier (BCR).
- The BCR shall be of a modular, field-expandable, N + 1 design.
- A fully operational BCR system shall be capable of fully charging the battery bank within twelve (12) hours from a fully discharged state.
- The BCR system shall operate such that any failure in either rectifier module shall not prevent the other module from performing satisfactorily.
- The BCR system shall be equipped with the necessary fuses, circuit-breakers and power-distribution hardware.
- The BCR equipment shall be 19" EIA rack mountable.
- The BCR system shall have automatic high voltage and low voltage disconnects.
- The BCR system shall be equipped an alarm output capability and, at a minimum, shall alarm the following conditions:
 - BCR failure
 - Lo/Hi battery voltage disconnect
- These alarm conditions can be combined into a single alarm output or appear as separate outputs.
- The alarm outputs shall include a dry-contact closure and may include Ethernet network connectivity for remote monitoring.
- A local visual indicator shall indicate an alarm condition.
- The response shall state the make and model of the BCR equipment being offered at each site.

DC Converter

- A DC Converter (DCC) shall be used to step-down -48VDC to -24VDC where required by the Contractor furnished site equipment.
- The DCC shall be of a redundant dual-converter design.
- The DCC shall operate in such a way that any failure in either converter shall not prevent the other converter from performing satisfactorily.
- The DCC system shall be equipped with the necessary fuses, circuit-breakers and power-distribution hardware.
- The DCC equipment shall be 19" EIA rack mountable.
- The DCC system shall have an automatic over-voltage disconnect.
- These alarm conditions can be combined into a single alarm output or appear as separate outputs.
- The alarm output shall include a dry-contact closure and may include Ethernet network connectivity for remote monitoring.
- A local visual indicator shall indicate an alarm condition.
- The response shall state the make and model of the DCC equipment being offered at each site.

AC Inverter

- Each DC plant shall be equipped with a 1000VA -48VDC to 120 VAC, 60 Hz inverter for powering any critical site equipment that is not available in a DC powered version.

Battery Bank

- The DC power system shall be augmented with a storage battery bank.
- The bank shall be based on a vertically-stackable, front-accessible, space-saving, modular-cell design.
- The bank shall be sized to provide standby power service for at least four (4) hours at an ambient temperature of 60-degrees F and a duty cycle of 80/10/10. See site electrical loads in the following section.
- Battery technology shall be either sealed gel-cells or valve regulated lead acid (VRLA) cells.
- The battery cells shall have a minimum 20-year life expectancy.
- The response shall state the make, model and size of the battery bank being offered at each site.

Installation

General

The contractor is fully responsible for installing the equipment supplied under this section and to assist the City with the interface to the Ethernet network backhaul provided by the City.

The contractor is responsible for providing all materials, cabling/wiring, labor, tools and instrumentation to ensure a complete and successful installation. All tools and instrumentation shall be considered to be normal and customary items owned by the contractor.

All work related to the equipment installations will be supervised by and performed in accordance with the manufacturer's recommendations and the installation standards of the City. However, in the event certain aspects of the manufacturer's recommendations and the installation standards of the City are in conflict, then the most stringent practices shall prevail.

All cabling and wiring shall be labeled and documented in accordance with the City's naming conventions and standards. The City has adopted Motorola's R56 "STANDARDS & GUIDELINES FOR COMMUNICATIONS SITES" document, latest edition, to serve as the foundation for the installation of fixed infrastructure communications equipment. This document is sometimes referred to as the "R56 Manual" and is available from Motorola as hard copy (part # 6881089E50-B) and in CD (part # 9880384V83).

Prior to the installations, the contractor shall develop an equipment installation schedule that shall be approved by the City. Schedule development shall occur in a timely fashion so that review, modification, and approval does not delay the commencement of the installation activities. Designated City personnel will perform inspections of the equipment installations, as desired. The successful contractor without additional compensation shall correct unsatisfactory installations.

For purposes of continuity & quality control, the contractor shall maintain the same installation crew(s) through completion of all equipment installs. The City reserves the right to dismiss any installer it deems unqualified or not complying with its standards.

Physical Site Space

Responders shall assume that sufficient physical space for the installation of equipment and antenna subsystems will be provided at existing sites owned or controlled by the City, subject to verification by site surveys.

For sites not owned or controlled by the City, the responder shall assert that sufficient physical space for the installation of equipment and antennas is available at the time of the response.

Communication Sites

The Contractor shall be responsible for the installation of all of the necessary components associated with the communication systems described in this SOW. The Contractor shall furnish all tools, test equipment, supplies and services necessary to provide a fully operational and satisfactory communication systems for the City.

The installation of the radio frequency equipment will be provided by the Contractor at the designated location(s) within the equipment rooms at the base station sites. The Contractor shall supply and install all required equipment, accessories, punch-blocks, terminal strips and/or cables needed to interface to new and/or existing facilities.

All equipment cables or cable bundles, to the greatest extent feasible, will be neatly tied by means of plastic tie wraps and secured by clamps to flat surfaces.

Antennas and Transmission Lines

At all the sites the City is providing new antennas and transmission line with PolyPhaser lightning protection. The Contractor shall be responsible for connecting to the PolyPhaser.

All coaxial jumper cables shall be 1/2" diameter, such as Commscope Superflex, or approved equal. The jumper cables shall be used to interconnect all interference protection or multiplexing devices with the coaxial antenna transmission line and radio frequency equipment.

All jumper cables shall be cut to length and shall use type 'N ' or DIN connectors.

General Cabling Requirements

Care shall be exercised in wiring to avoid damage to the wiring and equipment. All wiring and connectors shall be installed in strict adherence to standard communication installation practices and all applicable federal, state, and local codes.

All cables, regardless of length, shall be marked and/or numbered at both ends. Marking codes shall correspond to recognized standards and specifications. All cabling shall be neatly laced, dressed and adequately supported.

No splices will be allowed in system wiring other than at approved designated locations, and with approved devices.

Placement/Mounting

The City shall approve all equipment and associated accessory placement/mounting locations. The City shall approve the placement/mounting of equipment and associated accessories on the open equipment racks. The City shall approve all fixed-antenna mounting locations.

Interconnection – Control & Audio

The City will terminate existing Ethernet connections as needed by the Contractor's equipment at a demarcation point within the radio equipment room or shelter.

The response shall state the quantity and type of circuits and terminations required at each radio antenna site.

Contractor is responsible for all cabling, hardware, and for terminating the cabling at both the station and the demarcation ends.

The City shall approve all cabling routes.

The City will assist the contractor during cross-connect between new and existing equipment.

Electrical AC Power

Contractor shall assume that sufficient electrical power is available at the main distribution panel at existing sites owned or controlled by the City.

Contractor shall supply power to the equipment locations in accordance with the standards and practices of the City. Access to power at the equipment locations will be via outlet or junction box.

Grounding & Lightning/Power Surge Protection

All grounding protection shall meet the Motorola's R56 Standards and Guidelines for Communication Sites latest revision.

The contractor shall be responsible for providing all materials and labor for the installation of necessary electrical grounds and, lightning and surge protection devices in accordance with the standards and practices of the City. Contractor shall assume the presence of accessible electrical ground points within a reasonable distance from where the equipment and antenna sub-system will be located.

Contractor shall assume that a transient voltage surge suppression (TVSS) device exists at the main electrical service entrance at all existing sites owned or controlled by the City unless otherwise specified herein.

In the event certain aspects of the standards and/or practices followed by the contractor are deemed by the City to be superior, then the most stringent shall prevail.

The response shall state the make and model of all devices being offered at each site.

Clean-Up

The contractor shall remove all rubbish and debris associated with site preparation, unpacking of shipping materials, and/or the installations related to this project, from the premises.

Removal of rubbish and debris shall be performed daily.

Relocations, Removals & Disposals

General

Removed antennas, feedlines, accessories, and other appurtenances shall be disposed of by the contractor.

Costs

Costs associated with the relocations, removals and disposals shall be clearly and individually identified in the pricing section of the response on a per-site basis.

Warranty

First Year

- All equipment, including hardware and software components, less antennas and feedlines, and less power system batteries shall be fully warranted to be free from defects in material and workmanship for a minimum period of one (1) year from date of system acceptance or beneficial use of the completed system.
- The warranty shall include all costs, inclusive of travel, materials, labor, and shipping, as applicable.
- Contractor shall be responsible for all warranty activities related to product registration.
- At the end of the warranty period, contractor shall hand over all warranty related records to the City.
- Costs associated with this type of service shall be clearly and individually identified in the pricing section of the response. Single-unit and extended costs for multiple quantities shall be separately shown.

Extended Warranty

As an option, costs for extended factory warranty beyond the initial proposed warranty shall be offered, if available. Costs for these services shall be clearly and individually identified in the pricing section of the response. Show cost for a single unit quantity only.

Maintenance

Preventive – During Warranty Period

The City will assume maintenance responsibility for all equipment and accessories furnished under this section. For warranty related service, the City will perform first echelon diagnosis.

Spare Parts

As an option, costs for a station spare parts kit comprised of individual parts, modules and circuit boards shall be offered, if available. Costs for this kit shall be clearly and individually identified in the pricing section of the response. Show cost for a single kit quantity only.

Test Equipment

The response shall state, inclusive of make and model number, all test instruments, assemblies, fixtures and/or associated cables necessary for self-maintenance that are unique to the station and simulcast equipment supplied under this section.

As an option, costs associated with these test items shall be clearly and individually identified in the pricing section of the response. Costs shall be for single quantities.

Training – Technical

The contractor shall provide technical service training based on classroom style instruction at the manufacturer's and/or City of Newton's location.

All student instructional and handout material shall be supplied by the contractor as part of the training. All training materials specifically produced for the City by the contractor shall become the property of the City.

For the purposes of providing hands-on training, and to the greatest practical extent, all training sessions shall use equipment that is fully system operational.

As an option, costs associated with technical training shall be clearly and individually identified in the pricing section of the response. Costs shall be based on two (2) separate training sessions.

Student travel and subsistence expenses will not be the responsibility of the contractor.

Post-Contract Award

Thorough documentation of all major station hardware and software components, and their respective installations, will be required from the contractor. It is expected that this documentation will be comprised of both factory-provided and field-generated documents and/or manuals.

Every document exchanged between City and contractor shall be in paper and electronic form, as appropriate. Electronic documents shall use the latest version of the application software or by a mutually agreed version. The following applications are preferred:

- Text - Microsoft Word
- Spreadsheets - Microsoft Excel
- Databases - Microsoft Access
- Scanned Documents - Adobe Acrobat
- Simple Diagrams & Charts - Microsoft Visio or Excel
- Large Drawings – mutually agreed software program
- Schedules - Microsoft Project

The City shall approve the contents and organization of all field-generated documents supplied by the contractor.

Factory Provided – Technical, Service & User Manuals

A complete set of maintenance and operations manuals shall be provided to the City for each category of equipment purchased in association with this project. A systems manual shall also be provided, showing the system layout and architecture and describing the function of each major system component.

Manuals for OEM hardware shall be provided for each component of the system by the manufacturer, showing the system layout and architecture and describing the function of each major item.

Any unique wiring configurations or circuit modifications, which are not part of the standard equipment documentation, provided, shall be included in the ring binder. All information as described in the previous paragraph shall be included, in addition to the theory and method of operation.

Contractor shall supply two (2) complete sets of total system maintenance and operations manuals, both electronically and as part of the as-built site books.

At a minimum, manuals shall be provided for the following categories of equipment as available:

- Base/Repeater Station
- GPS Antennas supplied where required
- Transmitter combining equipment
- Receiver Multicoupler
- Intermodulation Suppression
- Simulcast Components
- DC Power System
- Wireless Link Components
- Lightning & Surge Protection Devices
- Software and/or Firmware

The following sets of manuals are to be furnished prior to project closeout:

- Three (3) complete paper-form sets.
- Three (3) complete electronic-form sets.

Costs associated with this type of documentation shall be clearly and individually identified in the pricing section of the response.

Field Generated – As Built

To the greatest extent, all paper-form **field-generated documentation** shall be prepared in a format suitable for storage in loose-leaf 3-ring binders. Electronic-form documentation shall be supplied on CD media or USB flash drives.

At a minimum, the following documentation shall be provided. Specification or catalog cut sheets for each of the major items illustrated in the diagrams shall be included with the submittals to the City.

Simple single line "as-built" system block diagram(s) of the base station installations excluding antenna systems. One diagram shall be supplied per site. The diagram shall identify the major components and their related accessories. Items illustrated on these diagrams shall be labeled in such a way as to easily identify them and shall include their make and model number, as applicable. It is preferred that make and model numbers be enclosed in a legend or schedule on the diagram. The City envisions that, at a minimum, the following items will be illustrated:

- Base/Repeater Station
 - Simulcast Components
 - DC Power System
 - Combiner/Multicoupler
 - Wireless Link Components
- Simple single line "as-built" system block diagram(s) of the antenna system installations. One diagram shall be supplied per site. The diagram shall identify the major components and their related accessories. Items illustrated on these diagrams shall be labeled in such a way as to easily identify them and shall include their make and model number, as applicable. It is preferred that make and model numbers be enclosed in a legend or schedule on the diagram. The City envisions that, at a minimum, the following items will be illustrated:
- Two-way antennas and associated mounts.
 - Wireless link antennas and associated mounts.
 - Main transmission line, coaxial jumper cables, and their approximate lengths.
 - Cable entrance ports, lightning arrestors and ground straps.
 - Combiner/multicoupler
 - A detailed intractably and intercabling plan(s) of the base station installations. The plan(s) shall identify the major components and their related accessories. Items illustrated on this plan(s) shall be labeled in such a way as to easily identify them and the type of cabling represented. It is preferred that make and model numbers of major components and cables be enclosed in a legend or schedule on the diagram.
 - For each radio site, simple "as-built" floor plans illustrating the location of equipment and/or equipment racks supplied under this contract in relation with other existing site equipment. For ease of reference, rack mounted equipment shall be shown in a frontal elevation view. All plans shall be scaled and the contrasting of new and existing equipment shall be by the use of a gray scale.

- For each base station, “as-built” antenna location plans illustrating the location, azimuth and height above ground level of the 2-way antennas. The location of the antennas shall be shown in top and frontal elevation views. All plans shall be scaled.
- A detailed inventory of each major equipment component installed. At a minimum, this shall include model number, serial number, and software and/or firmware revision levels. The inventory shall be prepared in database format and submitted in electronic form.
-

The following sets of field-generated documentation is to be furnished prior to project closeout:

- Three (3) complete paper-form sets.
- Three (3) complete electronic-form sets.

Costs associated with this type of documentation shall be clearly and individually identified in the pricing section of the response.

Project Management

City of Newton’s Project Director

After award, the City will designate an individual as its Project Director ("CPD"). This individual will be the focal point of contact for all matters between the City and the Contractor.

Contractor’s Project Manager

During contract negotiation, the negotiating contractor shall identify an individual who will serve as its Project Manager (“CPM”) if awarded a contract. This individual shall serve as the single point of contact between the CPD and the contractor.

The City reserves the right to accept or reject the identified CPM. Also, if during the term of the contract, it is necessary to replace the CPM, the City reserves the right to accept or reject any new offered CPM.

The CPM shall have a proven record of experience in projects of similar scope and the individual’s resume shall include the following information:

- Name
- Affiliation with responder
- Home base of operations
- Relevant experience, education & training
- List three (3) of the most recent projects of similar scope managed by your identified PM
- Provide a brief description of each listed project & include the major categories of equipment involved inclusive of the manufacturer
- For each listed project, provide approximate start and end dates
- For each listed project, provide name, title and telephone number of a reference contact possessing a technical background

For each of the months identified in the project schedule (see the following section), the responder shall provide a reasonable estimate of the number of hours to be spent by the CPM on the implementation of this project. For each one of the months, the hours shall be broken down into “on-site” hours and “off-site” hours, as applicable.

- Schedule

The responder shall include in their response a “high-level” GANTT chart showing how they envision the system will be implemented. This project schedule shall include, at a minimum, the following:

- Time scale shall be defined in running number of months (major scale) and weeks (minor scale) rather than calendar dates.
- Contract execution shall be the starting milestone on the chart.
- Projected project status meetings.
- Major project events and/or tasks.
- Major and/or critical project milestones.
- Estimated duration of events and/or tasks.
- Projected project closeout date.
-

All project events, tasks, and/or milestones that the responder views as the responsibility of the City shall be clearly identified in the project chart with the color red.

It should be understood that this project schedule should not be construed to be complete or final. During the period of contract negotiations, the City will allow the negotiating contractor to submit a detailed schedule for inclusion to the contract.

Meetings

Meetings to discuss aspects of, and monitor progress of, the implementation will be required. During the early stages of the implementation, meetings between City and Contractor shall be conducted at least once every two (2) weeks. In the latter stages, meetings shall be conducted weekly. The decision to transition to weekly meetings shall occur by mutual agreement between the CPD and the CPM.

The contractor shall assume that all meetings will be conducted in facilities provided by the City.

Progress Review

The contractor shall participate in progress review meetings. These meetings shall address, but not limited to, the schedule, correspondence, clarifications, open action items, budget, and upcoming activities.

Technical

The contractor shall participate in technical meetings as requested by the City to discuss, but not limited to, technical aspects of the project and to review comments on documents submitted for approval. When appropriate, these technical meetings shall be conducted as extensions to the progress review meetings.

Documentation

Every document exchanged between City and Contractor shall be in paper and electronic form, as appropriate. Electronic documents shall use the latest version of the application software or by a mutually agreed version. The following applications are preferred:

- Text - Microsoft Word
- Spreadsheets - Microsoft Excel
- Databases - Microsoft Access
- Scanned Documents - Adobe Acrobat
- Simple Diagrams & Charts - Microsoft Visio or Excel
- Schedules - Microsoft Project

Planning & Mapping

IP Addressing

After contract award, the contractor shall be required to develop a plan that includes the IP addresses for all equipment furnished under this contract, as applicable; and shall also include a methodology for addressing equipment added in later phases. The plan shall be coordinated with the City's Data Networks group and shall be approved by the City.

Existing User Migrations

After contract award, the contractor shall be required to develop a plan for migrating existing users to the new system with the objective of eliminating or minimizing, to the greatest extent, disruption of existing operations. The plan shall be approved by the City.

Backbone Infrastructure

After contract award, the contractor shall finalize and deliver to the City its requirements for circuits and terminations at each fixed equipment site. The City will provision those circuits from its existing fiber/ethernet backbone.

Inspection & Testing

General

The contractor, in consultation with the City, shall develop and/or refine the necessary plans to conduct the inspections, checks and tests defined in this section. Except as specifically stated in this section, the contractor shall provide all items, instrumentation, materials, equipment, vehicles and personnel to conduct the tests and inspections.

Excluding consultations with the City, the response shall identify any other effort that may be required from the City during the contractor activities outlined in this section.

Costs associated with the tests, inspections, and documentation defined in this section shall be clearly and individually identified in the pricing section of the response on a per-site basis.

System Acceptance Testing

Following installation of all subsystem components, performance and operational tests shall be performed by the Contractor to verify proper operation of all subsystems and features of the system described in this specification. Acceptance testing will be performed prior to final system acceptance by the City, and successful passage of the tests shall be a condition of final acceptance. All test equipment and the personnel required to operate the equipment required for this testing shall be provided by the Contractor.

Field Inspections – Fixed Site Equipment

After field installation of the fixed site equipment (base/repeater stations and central simulcast network control system), the contractor shall perform field inspections to verify that the installations have been completed in accordance with the City's specifications, the contractor's installation practices and standards; and that workmanship has been performed in a neat and professional manner.

Prior to the commencement of this activity, the contractor shall deliver a preliminary field inspection plan to the City's Project Director (CPD) for review and approval. Plan development shall occur in a timely fashion so that review, modification, and approval does not delay the commencement of inspection activities.

These inspections shall be performed and completed prior to the simulcast communications performance verification testing. At the conclusion of this activity, the contractor shall present to the CPD written certification that the inspections performed were in accordance with, and that the results of the inspections are in compliance with the approved field inspection plan. The CPD's signature on the certification shall constitute acceptance by the City of these inspections.

The City reserves the right to attend these inspections.

Field Checks – Fixed Site Equipment

After field installation of the fixed site equipment (base/repeater stations and central simulcast network control systems), the contractor shall perform field checks to verify that the operating configurations and parameters of the fixed site equipment furnished under this contract have been completed in accordance with the City's and manufacturer's specifications.

A sampling of these checks are, but not limited to, as follows:

- Base/repeater station output power and deviation.
- Transmit & receive frequency noise floor sweeps.
- Sweep testing to verify VSWR/return loss for each antenna system conducted to verify the results of sweep testing performed by the City as part of the antenna and transmission line installations.

Prior to the commencement of this activity, the contractor shall deliver a preliminary field check plan to the CPD for review and approval. Plan development shall occur in a timely fashion so that review, modification, and approval does not delay the commencement of inspection activities.

These checks shall be performed and completed prior to the simulcast communications performance verification testing. At the conclusion of this activity, the contractor shall present to the CPD written certification that the checks performed were in accordance with, and that the results of the checks were in compliance with, the approved field inspection plan. The CPD's signature on the certification shall constitute acceptance by the City of these checks.

The City reserves the right to attend these checks.

Backbone Verification Tests

General

The contractor shall perform the tests described herein to demonstrate that the interconnection of the simulcast fixed radio equipment has been properly configured and optimized. The tests shall be performed and completed prior to the simulcast communications performance verification testing.

Prior to the commencement of this activity, the contractor shall deliver a preliminary performance verification test plan to the CPD for review and approval. Plan development shall occur in a timely fashion so that review, modification, and approval does not delay the commencement of testing activities.

At the conclusion of this activity, the contractor shall present to the CPD written certification that the tests performed were in accordance with, and that the results of the tests were in compliance with, the approved test plan. The CPD's signature on the certification shall constitute acceptance by the City of these tests.

The City reserves the right to attend these tests.

Performance Verification Tests

After the City has accepted all the inspections, checks and tests described, the contractor shall perform the tests described herein to demonstrate that the system has been properly configured and optimized and that it is operating as engineered.

Base Repeater Functions

- Transmit frequency
- Output and reflected power
- Receiver sensitivity
- Transmitter duplexer loss
- Receiver audio output levels

Receive Voting

Testing to validate proper voting operation from each receive site shall be performed.

Network Management

Contractor shall identify how alarms shall be transmitted to the City and procedures for notification to a maintenance shop.

Contractor shall demonstrate the following as part of acceptance:

- Verification of site alarms by site
- Verification of RF subsystem hardware alarms by site

Integrated Equipment Tests

This testing shall be performed on each interconnection between the simulcast fixed radio equipment at the radio sites and the central simulcast network control system after being integrated into the backbone infrastructure and shall verify end-to-end baseband operation.

Simulcast Communication Test

Coverage Testing

Contractor to identify the 95/95 coverage service area based upon the upgraded system and testing from a minimum of ten locations throughout the City. Locations shall be approved by the City. Testing shall record RSSI and DAQ performance from those locations using a portable radio at hip level with a speaker mic.

Simulcast Signal Strength Measurements

During the simulcast communication test, the contractor shall take measurements of actual simulcast signal strength levels in dBm with corresponding location information. This information will not be used towards system acceptance, but rather as baseline data for possible future reference. The signal level data shall be provided in electronic form.

30-Day Burn in Test

Prior to system acceptance, the provided system shall undergo a 30-day reliability test, during which time it will be operating normally.

The 30-day test shall be broken into two phases, each being 30 days. Each test shall be comprised of only two channels, one from Fire and one from Police. The second 30-day test can only be initiated once the first 30-day test is accepted by the City.

Functional operational downtime for the provided system equipment, including critical system failures and preventive maintenance, shall not exceed a total of one (1) hour for the 30 day acceptance period. System availability for purposes of this section shall mean the ability to provide all software and hardware functions included within the system design and implementation.

The Contractor shall provide a system test plan to certify all operational features and functions of the installed system. The plan shall be subject to approval of the City. Final acceptance of the system shall not occur until the successful completion of the certification test and a period of thirty (30) days in operation meeting the reliability and availability requirements stated here.

Time charged against availability shall exclude the following items and shall not be deducted from scheduled system operating hours:

- Loss of proper site environment (HVAC)
- AC power input damage or interruptions
- Water or fire damage
- Acts of God
- Scheduled maintenance not to exceed a total of one hour during the 30 calendar day period
- Operator error made by the City system operators
- Operator abuse of RF equipment and accessories

In the event any of the excluded items result in system downtime, the availability test shall be suspended for a mutually agreeable time frame. After corrections are made, the availability test shall be restarted to complete the 30 day minimum test. The duration of the test suspension shall not count as part of the 30 days of system availability.

Operational problems encountered shall be identified for real-time or post-test correction by the Contractor. The test period shall be halted if the test results are invalid based on operating parameters. The suspended test shall resume within 48 hours after notification by the Contractor to the City that necessary corrections and/or modifications have been made.

Final System Acceptance

General

After acceptance of all the inspections, checks and tests conducted under this section, the contractor shall present to the CPD written certification that the activities were performed in accordance with, and that the results were in compliance with, the approved plans. This certification shall include the original copy of the individual inspection, check and test certifications, as applicable.

Final system acceptance will be deemed final when the CPD's signature appears on this certification.

Post-Final Acceptance Documentation

After final system acceptance, the contractor shall deliver to the City, in both printed and electronic form, the following documents in one consolidated package. Three (3) consolidated packages shall be delivered to the City.

- Copies of all signed certifications.
- Copies of all approved inspection, checks and test plans.
- Copies of all final inspection, checks and test results.
- Copies of As-builts
- Results of the simulcast communications performance verification tests shall be in both tabulated and in map form.

END OF SECTION

**CITY OF NEWTON
DEPARTMENT OF PURCHASING**

PRICE PROPOSAL #22-75

This form must be completed and placed, within your price proposal and ensure your envelope is marked:

RFP 22-75 LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE

A. The undersigned proposes to furnish all supplies accordance with the Project Manual prepared by the City entitled:

LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE

B. This proposal includes addenda number(s) _____, _____, _____, _____,

C. The contract price(s) for the services described in RFP #22-75 are attached hereto and include the following:

- A detailed cost proposal spreadsheet itemizing pricing of all equipment, sub-assemblies, and labor services shall be provided to allow deletion or addition of items following budgetary constraints or changes in plans concerning the distribution of equipment. All installation costs shall be itemized.
- The cost proposal spreadsheet [a derivative of the requested equipment list] shall show cost on a per site basis. Other line-item costs shall be identified, these include:
 - Shipping -Warranty
 - Training -Acceptance tests
 - Software licenses -Engineering
 - Project Management
- All pricing must be fixed price for deliverables, no time and materials pricing will be accepted.
- Cost sheets shall be in matrix form to the greatest extent possible. Intended locations shall appear as columns on the matrix. Spreadsheet files shall be in both native Microsoft Excel and Adobe PDF formats.
- The costs shall cover all the items to be furnished and installed.
- Costs shall be shown per unit and extended.
- Identify all cost sheet items, at a minimum, with quantity, model number, descriptor, and intended location.
- List all optional or subitems associated with each major item.
- Clearly identify each cost sheet with an appropriate header and page number.
- Identify the length of warranty period for each piece of equipment supplied.
- Identify the recommended preventative maintenance plan for each piece of equipment supplied

TOTAL PROJECT COST (based on the foregoing): \$ _____

(Total Project Cost In Words)

:

COMPANY NAME _____

- E.** Prompt Payment Discounts. Bidders are encouraged to offer discounts in exchange for an expedited payment. Payments may be issued earlier than the general goal of within 30 days of receipt of the invoice only when in exchange for discounted prices. Discounts will not be considered in determining the lowest responsible bidder.

Prompt Payment Discount _____% _____ Days
Prompt Payment Discount _____% _____ Days
Prompt Payment Discount _____% _____ Days

- F.** The undersigned agrees that, if selected as Vendor, s/he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the City, execute a contract in accordance with the terms of this bid.

The undersigned hereby certifies that will comply fully with all laws and regulations applicable to awards made subject to M.G.L. c.30B.

The undersigned further certifies under the penalties of perjury that this bid has been made and submitted in good faith and without collusion or fraud with any other person. As used in this section the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club or other organization, entity, or group of individuals. The undersigned further certifies under penalty of perjury that the said undersigned is not presently debarred from public contracting or subcontracting in the Commonwealth under the provisions of M.G.L. c.29, §29F or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Date _____

(Name of Proposer)
BY: _____

(Printed Name and Title of Signatory)

(Business Address)

(City, State Zip)
_____/_____
(Telephone) (FAX)

(E-mail Address)

NOTE: If the bidder is a corporation, indicate state of incorporation under signature, and affix corporate seal; if a partnership, give full names and residential addresses of all partners; if an individual, give residential address if different from business address; and, if operating as a d/b/a give full legal identity. Attach additional pages as necessary.

END OF SECTION

**CITY OF NEWTON
DEPARTMENT OF PURCHASING**

TECHNICAL PROPOSAL 22-75 COVER SHEET

The undersigned proposes to furnish all supplies accordance with the Project Manual prepared by the City entitled:

LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE

This proposal includes addenda number(s) _____, _____, _____, _____,

Submitted herewith are the following:

- Bid Form, 2 pages
- Price Schedules, 5 pages
- Bidder's Qualification Form and References, 2 pages
- Certificate of Non-Collusion, 1 page
- Certification of Tax Compliance, 1 page
- Certificate of Foreign Corporation (if applicable), 1 page
- Debarment Letter, 1 page
- IRS W-9 Form, 1 page
- Business Category Information Form

Name of Firm or Individual Submitting Proposal: _____
(Please Print Clearly)

Address: _____

Telephone _____ FAX _____

E-mail Address: _____

CITY OF NEWTON

BIDDER'S QUALIFICATIONS AND REFERENCES FORM

All questions must be answered, and the data given must be clear and comprehensive. Please type or print legibly. If necessary, add additional sheet for starred items. This information will be utilized by the City for purposes of determining bidder responsiveness and responsibility with regard to the requirements and specifications of the Contract.

- 1. FIRM NAME: _____
- 2. WHEN ORGANIZED: _____
- 3. INCORPORATED? YES NO DATE AND STATE OF INCORPORATION: _____
- 4. IS YOUR BUSINESS A **MBE**? YES NO **WBE**? YES NO or **MWBE**? YES NO
- * 5. LIST ALL CONTRACTS CURRENTLY ON HAND, SHOWING CONTRACT AMOUNT AND ANTICIPATED DATE OF COMPLETION:

- * 6. HAVE YOU EVER FAILED TO COMPLETE A CONTRACT AWARDED TO YOU?
 YES NO
IF YES, WHERE AND WHY?

- * 7. HAVE YOU EVER DEFAULTED ON A CONTRACT? YES NO
IF YES, PROVIDE DETAILS.

- * 8. LIST YOUR VEHICLES/EQUIPMENT AVAILABLE FOR THIS CONTRACT:

- * 9. IN THE SPACES FOLLOWING, PROVIDE INFORMATION REGARDING CONTRACTS COMPLETED BY YOUR FIRM SIMILAR IN NATURE TO THE PROJECT BEING BID. A MINIMUM OF FOUR (4) CONTRACTS SHALL BE LISTED. PUBLICLY BID CONTRACTS ARE PREFERRED, BUT NOT MANDATORY.

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____

DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____
PUBLICLY BID? _____ YES _____ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____) _____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____
DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____
PUBLICLY BID? _____ YES _____ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____) _____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____
DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____
PUBLICLY BID? _____ YES _____ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____) _____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

PROJECT NAME: _____
OWNER: _____
CITY/STATE: _____
DOLLAR AMOUNT: \$ _____ DATE COMPLETED: _____
PUBLICLY BID? _____ YES _____ NO
TYPE OF WORK?: _____
CONTACT PERSON: _____ TELEPHONE #: (____) _____
CONTACT PERSON'S RELATION TO PROJECT?: _____
(i.e., contract manager, purchasing agent, etc.)

10. The undersigned certifies that the information contained herein is complete and accurate and hereby authorizes and requests any person, firm, or corporation to furnish any information requested by the City in verification of the recitals comprising this statement of Bidder's qualifications and experience.

DATE: _____ BIDDER: _____
SIGNATURE: _____
PRINTED NAME: _____ TITLE: _____

END OF SECTION

CERTIFICATION OF TAX COMPLIANCE

Pursuant to M.G.L. c.62C, §49A and requirements of the City, the undersigned acting on behalf of the Contractor certifies under the penalties of perjury that the Contractor is in compliance with all laws of the Commonwealth relating to taxes including payment of all local taxes, fees, assessments, betterments and any other local or municipal charges (unless the Contractor has a pending abatement application or has entered into a payment agreement with the entity to which such charges were owed), reporting of employees and contractors, and withholding and remitting child support.*

**Signature of Individual
or Corporate Contractor (Mandatory)

*** Contractor's Social Security Number
(Voluntary) or Federal Identification Number

Print Name: _____

By: _____
Corporate Officer
(Mandatory, if applicable)

Date: _____

Print Name: _____

- * The provision in this Certification relating to child support applies only when the Contractor is an individual.
- ** Approval of a contract or other agreement will not be granted until the City receives a signed copy of this Certification.
- *** Your social security number may be furnished to the Massachusetts Department of Revenue to determine whether you have met tax filing or tax payment obligations. Providers who fail to correct their non-filing or delinquency will not have a contract or other agreement issued, renewed, or extended.

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee club, or other organization, entity, or group or individuals.

(Signature of individual)

Name of Business

CERTIFICATE OF FOREIGN CORPORATION

The undersigned hereby certifies that it has been duly established, organized, or chartered as a corporation under the laws of:

(Jurisdiction)

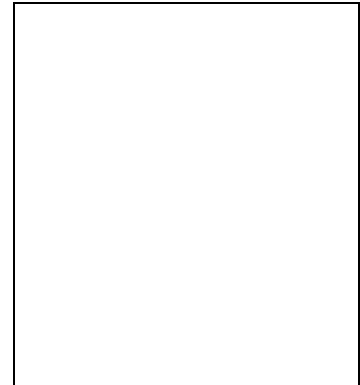
The undersigned further certifies that it has complied with the requirements of M.G.L. c. 30, §39L (if applicable) and with the requirements of M.G.L. c. 156D, §15.03 relative to the registration and operation of foreign corporations within the Commonwealth of Massachusetts.

Name of person signing proposal

Signature of person signing proposal

Name of Business (Please Print or Type)

Affix Corporate Seal here



City of Newton



Mayor
Ruthanne Fuller

PURCHASING DEPARTMENT
NICHOLAS READ *CHIEF PROCUREMENT OFFICER*
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449
purchasing@newtonma.gov

Telephone
(617) 796-1220
Fax:
(617) 796-1227
TDD/TTY
(617) 796-1089

Date

Vendor

Re: Debarment Letter for Invitation For RFP #22-75

As a potential vendor on the above contract, the City requires that you provide a debarment/suspension certification indicating that you are in compliance with the below Federal Executive Order. Certification can be done by completing and signing this form.

3. Debarment:

Federal Executive Order (E.O.) 12549 “Debarment and Suspension“ requires that all contractors receiving individual awards, using federal funds, and all sub-recipients certify that the organization and its principals are not debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency from doing business with the Federal Government.

I hereby certify under pains and penalties of perjury that neither I nor any principal(s) of the Company identified below is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

PHONE _____ FAX _____
EMAIL _____

Signature

Date

If you have questions, please contact Nicholas Read, Chief Procurement Officer at (617) 796-1220.

Request for Taxpayer Identification Number and Certification

**Give form to the
requester. Do not
send to the IRS.**

Print or type See Specific Instructions on page 2.	Name (as shown on your income tax return)	
	Business name, if different from above	
	Check appropriate box: <input type="checkbox"/> Individual/Sole proprietor <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Limited liability company. Enter the tax classification (D=disregarded entity, C=corporation, P=partnership) ▶ X Exempt payee <input type="checkbox"/> Other (see instructions) ▶	
	Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	City, state, and ZIP code	
List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number
or
Employer identification number

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
- I am a U.S. citizen or other U.S. person (defined below).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. See the instructions on page 4.

Sign Here	Signature of U.S. person ▶	Date ▶	Name
------------------	----------------------------	--------	------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

- Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
- Certify that you are not subject to backup withholding, or
- Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

Note. If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

The person who gives Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States is in the following cases:

- The U.S. owner of a disregarded entity and not the entity,

Business Category Information Form*

IFB No. 22-75

Land Mobile Simulcast Radio System for Police & Fire

Business Type Categories*	Select All That Apply
MBE: Minority-Owned Business Enterprise	
WBE: Women-Owned Business Enterprise	
VBE: Veteran Business Enterprise	
SDVOBE: Service-Disabled Veteran-Owned Business Enterprises	
DOBE: Disability-Owned Business Enterprise	
LGBTBE: Lesbian, Gay, Bisexual, Transgender Business Enterprise	

*Information is being collected as part of a City initiative to open contract opportunities to underrepresented vendors.

I do not wish to complete this form.

There is no penalty for persons who do not complete this Form, and whether or not the Form is completed will not be taken into consideration in awarding a bid.

I certify that the foregoing information is true and correct.

By: _____

Date:

CONTRACT FORMS

The awarded bidder will be required to complete and submit documents substantially similar in form to the following.

These forms may need to be modified on account of changed circumstances, and are provided for informational purposes only.

City - Contractor Agreement C -

LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE

CITY - CONTRACTOR AGREEMENT

CONTRACT NO. C- _____

THIS AGREEMENT made this _____ day of _____ in the year Two Thousand and Twenty Two by and between the CITY OF NEWTON, a municipal corporation organized and existing under the laws of the Commonwealth of Massachusetts, hereinafter referred to as the CITY, acting through its Chief Procurement Officer, but without personal liability to him, and

hereinafter referred to as the CONTRACTOR.

The parties hereto for the considerations hereinafter set forth agree as follows:

I. SCOPE OF WORK. The Contractor shall furnish all labor, materials and equipment, and perform all work required in strict accordance with the Contract Documents for the following project:

LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE

II. CONTRACT DOCUMENTS. The Contract documents consist of the following documents which are either attached to this Agreement or are incorporated herein by referenced:

- a. This CITY-CONTRACTOR Agreement;
- b. The City's Request For Proposals #22-75 (RFP) issued by the Purchasing Department;
- c. The Project Manual for **LAND MOBILE SIMULCAST RADIO SYSTEM FOR POLICE & FIRE** including the Instructions to Bidders; General Conditions; Special Conditions; MWBE/AA Requirements, Wage Rate Requirements and Wage Rate Schedule(s) including any updated prevailing wage rate schedules if applicable; The Supplementary Special Conditions; General Requirements and Project Specifications; and Drawings, if included or referenced therein;
- d. Addenda Number(s) _____;
- e. The Proposal of the CONTRACTOR submitted for this Project and accompanying documents and certifications;
- f. Certificate(s) of Insurance and surety bond(s) submitted by the CONTRACTOR in connection with this Project;
- g. Duly authorized and executed Amendments, Change Orders or Work Orders issued by the CITY after execution of this CITY-CONTRACTOR Agreement.

This CITY-CONTRACTOR Agreement, together with the other documents enumerated in this Article, constitute the entire Agreement between the CITY and the CONTRACTOR.

III. PRIORITY OF DOCUMENTS. In the event of inconsistency between the terms of this CITY -CONTRACTOR Agreement and the Project Manual, the terms of this Agreement shall prevail.

IV. APPLICABLE STATUTES. All applicable federal, state and local laws and regulations are incorporated herein by reference and the Contractor agrees to comply with same.

- V. CONTRACT TERM.** This contract shall be in effect until the delivery and implementation of the land mobile simulcast radio system modernization and upgrades are complete.
- VI. AUTHORIZATION OF AND PAYMENT FOR WORK PERFORMED.** The execution of this contract does not constitute a notice to proceed or authorization to perform work. No work shall be commenced unless authorized by a written Work Order prepared by City of Newton Public Buildings Department specifying the work to be performed. The Contractor will be paid following completion and acceptance of the work authorized in accordance with the Contract. The City will use best efforts to pay within thirty (30) days of receipt of an invoice for the work authorized or acceptance of the work whichever date is later.
- VII. RESPONSIBILITY FOR THE WORK/INDEMNIFICATION.** The Contractor shall take all responsibility for the work, and shall take all precautions for preventing injuries to persons and property in or about the work and shall defend, indemnify and hold the City harmless from all loss, cost, damage or expense arising from injuries to persons or property in or about the work. The Contractor shall be responsible for any damage which may be caused by the failure or insufficiency of any temporary works. He shall effectively protect his work and shall be liable for all damage and loss by delay or otherwise caused by his neglect or failure so to do.
- VIII. WARRANTY.** Except as may be otherwise provided in the Project Manual, the Contractor shall replace, repair or make good, without cost to the City, any defects or faults arising within one (1) year after date of acceptance of work and materials furnished hereunder (acceptance not to be unreasonably delayed) resulting from imperfect or defective work done or materials furnished by the Contractor.
- IX. PATENT INDEMNIFICATION.** The Contractor agrees to assume the defense of and shall indemnify and save harmless the City and all persons acting for or on behalf of it from all suits and claims against them, or any of them, arising from or occasioned by the use of any material, equipment or apparatus, or any part thereof which infringes or is alleged to infringe on any patent rights. In case such material, equipment or apparatus, or any part thereof, in any such suit is held to constitute infringement, the Contractor, within a reasonable time, shall at its own expense, and as the City may elect, replace such material, equipment or apparatus with non-infringing material, equipment or apparatus, or remove the material, equipment, or apparatus and refund the sums paid therefor.
- X. ASSIGNMENT/SUB-CONTRACTING.** The Contractor agrees that he will not sell, assign or transfer this Contract or any part thereof or interest therein without the prior written consent of the City.
- XI. TERMINATION.** If the work to be done under this Contract shall be abandoned, or if this Contract or any part thereof shall be assigned or transferred, without the previous written consent of the City, or if the Contract or any claim hereunder shall be assigned by the Contractor otherwise than as herein specified, or if at any time the City determines that the conditions herein specified as to the rate of progress are not fulfilled, or that the work or any part thereof, is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of this Contract, the City may terminate this Contract and/or notify the Contractor to discontinue such work or such part thereof as the City may designate, and the City may thereupon by agreement or otherwise, as it may determine, complete the work, or any part thereof; and for such completion the City for itself or for its Contractor may take possession of and use or cause to be used in the completion of the work thereof any of such materials, apparatus, machinery, implements, and tools of every description as may be found upon said work. Termination pursuant to this paragraph shall not entitle the Contractor to any claim for damages on account thereof, nor shall it relieve the Contractor of any liability under this Contract.
- XII. INSURANCE REQUIREMENTS.** The Vendor shall provide insurance coverage as listed below. This insurance shall be provided at the Vendor's expense and shall be in full force and effect during the full term of this Contract.

WORKER'S COMPENSATION

Worker's Compensation: Per M.G.L. c.149, §34 and c. 152 as amended.

COMMERCIAL GENERAL LIABILITY

Personal Injury	\$500,000 each occurrence
	\$1,000,000 aggregate
Property Damage	\$500,000 each occurrence
	\$1,000,000 aggregate

VEHICLE LIABILITY

Personal Injury	\$500,000 each person
	\$1,000,000 aggregate
Property Damage	\$300,000 each occurrence
	\$500,000 aggregate

The City shall be named as additional insureds on the Vendor's Liability Policies.

XIII. GOVERNING LAW. This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts.

XIV. SEVERABILITY. The provisions of this Contract are severable. If any section, paragraph, clause or provision of this Contract shall be finally adjudicated by a court of competent jurisdiction to be invalid, the remainder of this Contract shall be unaffected by such adjudication and all of the remaining provisions of this Contract shall remain in full force and effect as though such section, paragraph, clause or provision, or any part thereof so adjudicated to be invalid, had not been included herein, unless such remaining provisions, standing alone, are incomplete and incapable of being executed in accordance with the intent of the parties to this Contract.

XV. AMENDMENTS TO THIS CONTRACT. This Contract may not be amended except in writing executed in the same manner as this CITY-CONTRACTOR Agreement.

IN WITNESS WHEREOF, the parties have caused this instrument to be executed under seal the day and year first above written.

CONTRACTOR

CITY OF NEWTON

By _____

By _____

Chief Procurement Officer

Print Name _____

Date _____

Title _____

Date _____

By _____

Chief Fire Department

Affix Corporate Seal Here

Date _____

City funds are available in the
Following accounts:

Character

Approved as to Legal Form and

I further certify that the Mayor, or her
designee, is authorized to execute contracts
and approve change orders

By _____

Associate City Solicitor

By _____

Comptroller of Accounts

Date _____

Date _____

CONTRACT AND BONDS APPROVED

By _____

Mayor or her designee

Date _____

CERTIFICATE OF AUTHORITY - CORPORATE

1. I hereby certify that I am the Clerk/Secretary of _____
(insert full name of Corporation)
2. corporation, and that _____
(insert the name of officer who signed the **contract and bonds.**)
3. is the duly elected _____
(insert the title of the officer in line 2)
4. of said corporation, and that on _____
(insert a date that is ***ON OR BEFORE*** the date the officer signed the **contract and bonds.**)

at a duly authorized meeting of the Board of Directors of said corporation, at which all the directors were present or waived notice, it was voted that

5. _____ the _____
(insert **name** from line 2) (insert **title** from line 3)

of this corporation be and hereby is authorized to execute contracts and bonds in the name and on behalf of said corporation, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this corporation's name and on its behalf, with or without the Corporate Seal, shall be valid and binding upon this corporation; and that the above vote has not been amended or rescinded and remains in full force and effect as of the date set forth below.

6. ATTEST: _____ AFFIX CORPORATE
(Signature of **Clerk or Secretary**)* SEAL HERE
7. Name: _____
(Please print or type name in line 6)*
8. Date: _____
(insert a date that is ***ON OR AFTER*** the date the officer signed the **contract and bonds.**)

* The name and signature inserted in lines 6 & 7 must be that of the Clerk or Secretary of the corporation.