



Solicitation Information
21 Dec 10

Continuous Recruitment: CR #29 (MPA # 453)

TITLE: Fire Alarm / Sprinkler Services and Related Renovations for Group Homes

Submission Deadline: Continuous Recruitment through 1 April 11 @ 12:00 Noon (Eastern Time)

PRE-BID/ PROPOSAL CONFERENCE: NO

Questions concerning this solicitation may be emailed to the Division of Purchases at questions@purchasing.ri.gov no later than **15 March 11 @ 12:00 Noon** (Eastern Time). Questions should be submitted in a *Microsoft Word attachment*. Please reference the CR # on all correspondence. Questions received, if any, will be posted on the Internet as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

SURETY REQUIRED: No

BOND REQUIRED: No

Jerome D. Moynihan, C.P.M., CPPO
Administrator of Purchasing Systems

Vendors must register on-line at the State Purchasing Website at www.purchasing.ri.gov.

NOTE TO VENDORS:

No offer will be considered that is not accompanied by a completed and signed Bidder Certification Cover Form.

THIS PAGE IS NOT A BIDDER CERTIFICATION FORM

The Division of Purchases, on behalf of the Department of Human Services is seeking to establish a list of qualified firms to provide Fire Alarm / Sprinkler Services and Related Renovations to group homes throughout Rhode Island, in accordance with the terms of this solicitation and the State's General Conditions of Purchase, which is available on the internet at www.purchasing.ri.gov

INSTRUCTIONS AND NOTIFICATIONS TO OFFERORS:

- Potential offerors are advised to review all sections of this Request carefully, and to follow instructions completely, as failure to make a complete submission as described elsewhere herein may result in rejection of the proposal.
- Alternative approaches and/or methodologies to accomplish the desired or intended results of this procurement are solicited. However, proposals which depart from or materially alter the terms, requirements, or scope of work defined by this Request will be rejected as being non-responsive
- All costs associated with developing or submitting a proposal in response to this Request, or to provide oral or written clarification of its content, shall be borne by the offeror. The State assumes no responsibility for these costs.
- Proposals are considered to be irrevocable for a period of not less than sixty (60) days following the opening date, and may not be withdrawn, except with the express written permission of the State Purchasing Agent.
- All pricing submitted will be considered to be firm and fixed unless otherwise indicated herein.
- Proposals misdirected to other State locations or which are otherwise not present in the Division of Purchases at the time of opening for any cause will be determined to be late and may not be considered. The "Official" time clock is in the reception area of the Division of Purchases.
- In accordance with Title 7, Chapter 1.1 of the General Laws of Rhode Island, no foreign corporation shall have the right to transact business in the state until it shall have procured a Certificate of Authority to do so from the Rhode Island Secretary of State (401-222-3040). This will be a requirement only of the successful bidder (s)
- Offerors are advised that all materials submitted to the State of Rhode Island for consideration in response to this Request for Proposals will be considered to be public records, as defined in Title 38 Chapter 2 of the Rhode Island General Laws, without exception, and will be released for inspection immediately upon request, once an award has been made.
- The State of Rhode Island has a goal of ten per cent (10%) participation by MBE's in all State procurements. For further information, visit the web site www.mbe.ri.org. To speak with an M.B.E. Officer, call (401) 574-8253.

- Interested parties are instructed to peruse the Division of Purchases web site on a regular basis, as additional information relating to this solicitation may be released in the form of an addendum to this RFP / LOI
- **Equal Employment Opportunity (RIGL 28-5.1)**
§ 28-5.1-1 Declaration of policy. – (a) Equal opportunity and affirmative action toward its achievement is the policy of all units of Rhode Island state government, including all public and quasi-public agencies, commissions, boards and authorities, and in the classified, unclassified, and non-classified services of state employment. This policy applies in all areas where the state dollar is spent, in employment, public service, grants and financial assistance, and in state licensing and regulation. For further information, contact the Rhode Island Equal Employment Opportunity Office, at 222-3090

EXPLANATION OF SERVICES REQUESTED

This solicitation will be used to create a Master Price Agreement, based on hourly rates, for the services described within this solicitation. This Master Price Agreement, which may be utilized by privately owned facilities seeking to upgrade fire alarm / sprinkler services as required by the State, will expire four years from the date of original issue (projected to be approximately late January 2011). Service providers who are added to the qualified vendor list after the date of the original issuance of the Price Agreement will serve until the scheduled end of the original four year contract term. All service providers who desire to be included on this list must meet the qualifications listed below at the time the list is established.

Group homes, seeking fire alarm/ sprinkler improvements and related renovations must contract with a qualified service provider, **under MPA #453**, to be eligible for State reimbursement of incurred expenses.

All successful service providers must comply with all federal, state, and local laws, rules, and regulations regarding the services associated with this solicitation.

Firms selected for specific group home projects must, prior to the start of the work, submit plans / specifications to:

Jonathan D. DePault
 Chief of Inspections
 Facility Management
 Department of Administration
 401-222-5801-office
 401-641-2315-cell
jdepault@doa.ri.gov

Workers providing on-site services under this Master Price Agreement (#453) may be subjected to a criminal background investigation, at the service providers expense. The State, or group home management, has the right of refusal, for any reason, for on-site workers.

This is a continual enrollment process. The Division of Purchases will forward all applications received to the Facilities Management Division of the Department of Administration for evaluation.

All offerors deemed appropriate by Facilities Management and the DOA/ Division of Purchases will be placed on the qualified provider list for these services. Placement on the qualified provider list established does not guarantee income. Service providers will be selected, on an as-needed basis, based upon qualifications and other factors

Contract Term: Four years from original date of contract award (s), approximated as late January 2011. Services providers added after the initial award (s) will be contracted through the balance of the maximum four year term

Architectural / Engineering Services

Persons or firms practicing Architectural and/or Engineering Services in the State of Rhode Island must possess a proper registration and Certificate of Authorization in accordance with Rhode Island General Laws.

A copy of the current Rhode Island Certificate of Authorization for the firm and current Rhode Island registration(s) for the individual(s) who would perform the work must be included behind the front page of each copy of the Proposal

The Board of Design Professionals can be contacted as follows:

Board for Design Professionals
1511 Pontiac Avenue (Bldg 68-2)
Cranston, RI 02920
Tel: 401-462-9530
Fax: 401-462-9532
Website: www.bdp.state.ri.us

The respondent's Proposal may be disqualified and removed from consideration if the Proposal fails to include the required current Rhode Island Certificate of Authorization for the firm and current Rhode Island registration(s).

Contract awards over \$50,000: A performance bond and labor and payment bond of up to 100% of an award will be required for all fire alarm / sprinkler projects over \$50,000...

Bonds must meet the following requirements:

- **a. Corporation:** The Bond must be signed by an official of the corporation above his official title and the corporate seal must be affixed over his signature.
- b. Firm or Partnership:** The Bond must be signed by all of the partners and must indicate that they are "Doing Business As (name of firm) "
- c. Individual:** The Bond must be signed by the individual owning the business and indicate "Owner."
- d.** The Surety Company executing the Bond must be licensed to do business in the State of Rhode Island or Bond must be countersigned by a company so licensed.
- e.** The Bond must be signed by an official of the Surety Company and the corporate seal must be affixed over his signature.
- f.** Signatures of two witnesses for both the principal and the Surety must appear on the Bond
- g.** A Power of Attorney for the official signing of the Bond for the Surety

INSURANCE - All construction contractors, independent tradesmen, or firms providing any type of maintenance, repair, or other type of service to be performed on state premises, buildings, or grounds are required to purchase and maintain coverage with a company or companies licensed to do business in the state as follows:

- **a. Comprehensive General Liability Insurance -**
 - 1) Bodily Injury \$1,000,000 each occurrence
 - \$1,000,000 annual aggregate
 - 2) Property Damage \$500,000 each occurrence
 - \$500,000 annual aggregate
- Independent Contractors
- Contractual - including construction hold harmless and other types of contracts or agreements in effect for insured operations
- Completed Operations
- Personal Injury (with employee exclusion deleted)
- **b. Automobile Liability Insurance -**
 - Combined Single Limit \$1,000,000 each occurrence
 - Bodily Injury
 - Property Damage, and in addition non-owned and/or hired vehicles and equipment
- **c. Workers' Compensation Insurance -**
 - Coverage B \$100,000

The Purchasing Agent reserves the right to consider and accept alternate requirements, as noted in the State's General Conditions of Purchase, are listed below:

Questions & Submission

Questions concerning this solicitation may be e-mailed to the Division of Purchases at questions@purchasing.ri.gov. Questions should be submitted in a *Microsoft Word attachment, no later than the date & time indicated on page one of this solicitation*. Please reference the CR # on all correspondence. Questions received, if any, will be posted on the Internet as an addendum to this solicitation. It is the responsibility of all interested parties to download this information.

Responses (an original plus three (3) copies) should be mailed or hand-delivered in a sealed envelope marked "CR # 29 : : Fire Alarm / Sprinkler Services and Related Renovations for Group Homes" to:

**RI Dept. of Administration
Division of Purchases, 2nd floor
One Capitol Hill
Providence, RI 02908-5855**

Proposals should include the following:

- 1 A completed and signed three-page RIVIP Bidder Certification Cover Form, available at www.purchasing.ri.gov.

2. A cover letter, describing your background and experience, a copy of your resume, and a list of three references
3. If you are selected, you will be required to submit a completed and signed W-9 (taxpayer identification number and certification) Form is downloadable at www.purchasing.ri.gov
4. A flat-rate, hourly fee structure (per person, per category) for the services described within this solicitation.

EVALUATION FACTORS

The solicitation responses will be evaluated in the following manner.

The State will convene a Selection Committee that will score each response. The response will be scored in the following categories, in which each category is given a weight factor expressed in a percentage of the total. The evaluation categories are:

- **Experience in performing design and installation of addressable fire alarm systems and sprinkler systems (25 Technical points)**

The offerors will be evaluated on their demonstrated experience in designing similar systems. Offerors shall have at least 10 years of experience in the design and installation of fire alarm systems and sprinkler systems. It is preferable that Offerors have experience working for institutions of higher education. Offerors shall have conducted at least 3 designs and installations of similar size and complexity in the last 5 years, of which at least one (1) shall have been in the State of Rhode Island. Offerors shall have experience working with and obtaining design approvals the Rhode Island State Fire Marshall's office.

- **Technical Expertise (25 Technical points)**

The consultants shall demonstrate expertise in the design and installation of addressable fire alarm systems and sprinkler systems, and other appropriate disciplines. Knowledge of all local and national fire safety and electrical codes is mandatory. Describe how the project will be managed and include the names and resumes of all key personnel who would work on project

- **Ability to Complete Project Within Schedule (25 points)**

It is important to the College that the offeror complete this work within the proposed schedule. Proposal shall demonstrate that the company has sufficient staffing and that the proposed staff is available to complete the work required.

- **Fees (25 Cost points)** The fee structure will be evaluated along with the above items as a factor in selection. This project is structured as a lump sum fee plus reimbursable expenses. Fee should be supported by a summary of project personnel, level of effort by labor category, hourly rates for each labor category, materials costs, reimbursable expenses, sub-consultants, and any other information required to assess the fee.

SELECTION PROCESS

The Selection Committee will evaluate and score all proposals, using the criteria described earlier in this solicitation and repeated below.

_____ Experience Designing and Installing Addressable Fire Alarm and Sprinkler Systems

0-25 points

_____ Technical Expertise

0-25 points

_____ Ability to Complete Project on Schedule

0-25 points

_____ Fees (Hourly Rates)

0 – 25 points

Respondents scoring a minimum of 70 (out of 100) points will be selected as a qualified service provider under this master price agreement Designation as a qualified service provider is no guarantee of income.

Notwithstanding the above, the State reserves the right not to award this contract or to award on the basis of cost alone, to accept or reject any or all responses, and to award in its best interest.

Responses found to be technically or substantially non-responsive at any point in the evaluation process will be rejected and not considered further. The State reserves the right to reject any or all responses submitted and to waive any informalities in any vendor's submission

Appendix

Category 1: Sprinkler Review and Engineering Specifications

Scope of Work: Sprinkler Review and Engineering.

To be completed by: Work to commence within two weeks of executed agreement and ready to bid within 6-8 weeks after the executed agreement is finalized.

Fire Protection Engineer,

Please utilize this document to for the following work:

SCOPE OF WORK DEFINED

1.1 Scope of work.

The role and responsibilities of the licensed professional fire protection engineer that is experienced in sprinkler and fire alarm design is as follows:

The engineer shall be required to design a code compliant sprinkler system design. The design shall be placed into a format suitable for usage for both sprinkler contractor (licensed for sprinkler installation in the State of Rhode Island) and the State of Rhode Island Department of Administration. The engineer shall also monitor the installation of the sprinkler system and provide the required documentation to all parties involved with the project through its various stages until the project is complete. Once the project is complete the engineer is to supply the documentation required to accept the system and supply information on how to maintain it.

Reimbursable expenses such as printing, etc. will be paid at the actual cost plus 6%.

All projects must be approved or reviewed with comment(s) by Factory Mutual prior to any and all work is reviewed by DOA.

FM GLOBAL FIELD ENGINEERING OFFICE
500 RIVER RIDGE ROAD PO BOX9102
NORWOOD, MA 02062
TEL: (781)440-8000
FAX: (781) 440-8718

1.2 Rationale.

The purpose(s) of retaining the engineer is to ensure that the newly proposed sprinkler system design is engineered and monitored through all the phases incorporated with a sprinkler installation. The new sprinkler system will best serve the public and or the building occupants for years to come and also to eliminate the possibilities of adders and further costs related to the proposed project.

1.3 ROLES AND RESPONSIBILITIES-PRE-BID QUALIFICATIONS

The engineer shall have 5-7 years experience in sprinkler system design and have had to work on projects that have had favorable final completion

The engineer shall produce a minimum of three references from previous similar projects. The names and contact information shall be listed on the bid proposal document.

The engineer shall outline previous clients that compare with the requirements attributed to facilitate a favorable outcome on the project. The engineers shall also be intimately familiar with A.I.A.'s and all other forms affiliated in state government

THE BID SHALL BE AWARDED TO THE LOWEST EVALUATED BIDDER
******A REVIEW OF ALL PERTINANT INFORMATION LISTED ABOVE SHALL DETERMINE THE AWARDING OF THE BID. *******

2.0 GENERAL REQUIREMENTS FROM THE ENGINEER (after bid is awarded)

2.1 Bid Documents

The engineer shall supply the detailed drawings (AutoCAD formatted in the latest versions available) required for the proposed project. The drawings shall be utilized as a reference for the requirements for the sprinkler system design. The detailed drawing shall show a proposed location of all the system component(s) new and existing relative to the building floor plan(s). This drawing shall be to scale and accurate to alleviate any questions and or concerns by the sprinkler installer. The Engineer is responsible for existing conditions, and confirmation of the required quantities and final placement of the new devices and if required provide suitable options for the location of the same. The engineer is responsible for completing existing hydraulic calculations as well final hydraulic calculations

The engineer shall also provide a legend specific to all the devices showing all specifics and functionalities of all pertinent components to include typical applications as well as test discharge area designs and show how and where the fire alarm articulates with the system. These drawing shall be detailed and drawn to scale.

The engineer shall provide the general provisions for the contract and agreement with the proposed sprinkler installer. The A.I.A.'s and Division 0 and 1 shall be provided by the engineer.

The Engineer shall schedule project meetings from beginning stages to completion. The engineer shall be required to attend to these project meetings and report findings and or determinations to State of Rhode Island Department of Administration

3.0 CONSTRUCTION ADMINISTRATION AND OVERSITE

A. At the time of the bid, document all exceptions in writing and provide a detailed narrative to the State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency. All exceptions and or variances from the original specification as well as any and all substitutions shall also be forwarded to the State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency for final approval. Any such exceptions, variances or substitutions, which were not listed and or approved by the State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency at the time of the bid shall not be approved or considered.

B. The work includes all labor, materials, services, tools, transportation and temporary construction necessary.

C. The work shall include all labor, materials, services, tools, transportation and temporary construction necessary to fabricate, install, program and provide final testing

(system has to be fully functional) for a UL listed fire alarm system compliant to R.I.U.F.C. (latest current edition).

D. The work shall include any and all fees and activities required to secure approvals for state and local permits. The sprinkler installer needs to be made aware of all processes to acquire permits and fees attributed to the project. The State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency are not liable to any fines, fees or adders that are in result to errors and omissions found by the AHJ. The systems design shall meet and or exceed all current rules and regulations. This is the engineer's responsibility to design a code compliant system as prescribed in current state and federal guidelines. The system shall comply with the current Rhode Island Uniform Fire Code and NFPA 13 as well as any and all local ordinance as adopted by the local municipality.

E. The work includes performing field quality assurances that the system installed is being installed is to specifications and acceptable to current codes. The Engineer shall provide status reports every thirty days and or every benchmark/ milestone predetermined by the Rhode Island Department of Administration liaison (person to be determined at bid awarding negotiations).

F. The engineer shall evaluate and provide recommendations on the sprinkler design application and set bench marks and sign off for the request of payment. The request for payment shall correlate with the projects current status.

G. The work includes documenting and submitting the results of integrity and functional testing. This documentation is to include hydraulic calculations

H. The work includes performing a scheduled pre-acceptance test prior to scheduling the final acceptance test with the AHJ. The engineer shall provide adequate documentation to the Rhode Island Department of Administration stating that the system is ready for a final acceptance test with the AHJ. This documentation is also to include the mandatory hydraulic and flow test times.

I. The work also includes the engineer to witness the final acceptance test with the AHJ.

4.0 CLOSE-OUT DOCUMENTS (REQUIRED)

A. The work includes submitting As-built plans and all closeout documentation to the Rhode Island Department of Administration for final approval. The engineer shall be required to keep all documentation on file for a period 7 years. This documentation shall be reviewed prior to the owner demonstration and training.

B. Project manual-(technical specifications etc.)

C. Product- equipment data sheets submitted by vendor.

D. Detailed sprinkler riser

-Type of enclosure and connection.

-Flow and tamper devices (make and models etc.)

E. The engineer shall recommend a type of pipe and appropriate hardware specific to its application that takes in consideration in both the short term and long term goals of the building. The sprinkler design and specification shall be submitted for approval by the State of Rhode Island Department of Administration.

F. The “demo” work as well as patch and repair shall be listed as a duty and responsibility in the engineer's initial design and shall be included and forwarded to the Rhode Island Department of Administration for approval.

G. The engineer shall have the sprinkler/distributor/factory representative provide all pertinent operation manuals and a copy of the final design on a C.D. to be kept on the premises. The engineer shall also have the sprinkler installer/distributor/factory representative provide in writing a detailed required maintenance schedule and the frequency the maintenance has to be performed in accordance to Manufacturer's specifications. This detailed narrative shall include all equipment necessary to maintain and operate the sprinkler system (Fire pump, flow switches, tamper, etc.)

H. The engineer is to monitor and respond to all RFI in formal format suitable to the Rhode Island Department of Administration RFI procedure protocol.

5.0 PRIOR TO FINAL PAYMENT

5.1 Prior to final payment the engineer shall supply the State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency All appropriate paperwork i.e.: letters of completion from all aforementioned parties along with request for payment.

The engineer shall also:

A. Monitor the demo work as well as patch and repair shall be predetermined as the engineer's initial design and shall be included and forwarded to the Rhode Island Department of Administration for final approval.

B. All work shall satisfy current code requirements.

C. Monitor that all work is completed in a clean and tidy manner and in the event that there is demolishing the area affected is returned to its original specifications.

D. All work shall be completed in a clean and tidy manner; Contractor is responsible for all pertinent fees and permits associated with the work to be performed prior to any and all work is to be performed. All work performed shall satisfy all local and state rules and regulations. All work is to be tested and inspected by the local Fire Department and The Rhode Island State Fire Marshals office. Additionally, all work is to be completed to the satisfaction of the State of Rhode Island Department of Administration. Please submit all appropriate paperwork i.e.: letters of completion from all aforementioned parties with request payment.

Category 2: Architectural Design Specifications

Scope of Work: Architectural design services needed for proposed fire code compliant architectural designs.

To be completed by: Work to commence within two weeks of executed agreement and ready to bid within 6-8 weeks after the executed agreement is finalized.

Certified Architectural Design Firms;

Please utilize this document to for the following work:

SCOPE OF WORK DEFINED

1.1 DESIGN SERVICES

The role and responsibilities of the licensed professional architectural design firms experienced in fire stopping/smoke compartments design is as follows:

The architectural design firm shall be required to over see all facets for a code compliant design for remediation of deficiencies were found during an inspection by the Rhode Island State Fire Marshals Office, RI Building Commissioner office or any other agency charged with the duties of overseeing the well being of patrons, patients and the public . The design shall be placed into a format suitable for usage by the general contractor (licensed for contracting in the State of Rhode Island) and the State of Rhode Island, Department of Administration and Division of Purchasing. The architectural design firm shall also monitor the installation of the proposed fire & building code (“or latest rehabilitation code”) option of the compliant designs and provide the required documentation to all parties involved with the project through its various stages until the project is complete. Once the project is complete the architectural design firm is to supply the documentation required to accept the project and supply information on how to maintain it

Reimbursable expenses such as printing, etc. will be paid at the actual cost plus 6%

All projects must be approved or reviewed with comment(s) by Factory Mutual prior to any and all work is reviewed.

FM GLOBAL FIELD ENGINEERING OFFICE
500 RIVER RIDGE ROAD PO BOX9102
NORWOOD, MA 02062
TEL: (781)440-8000
FAX : (781) 440-8718

1.2 RATIONALE.

The purpose(s) of retaining the architectural design firm is to ensure that the newly proposed fire stopping and smoke compartment design is designed and monitored through all phases incorporated with an installation. The fire stopping and smoke compartment system will best serve the public and or the building occupants for years to come and also to eliminate the possibility of add-ons and further costs related to the proposed project.

1.3 ROLES AND RESPONSIBILITIES-PRE-BID QUALIFICATIONS

The architectural design firm shall have 5-7 years experience in architectural design and worked on projects that have had favorable final completion

The architectural design firm shall produce a minimum of three references from previous similar projects. The names and contact information shall be listed on the bid proposal document

The architectural design firm shall outline previous clients that compare with the requirements attributed to facilitate a favorable outcome on the project. The architectural design firm shall also be intimately familiar with A.I.A.'s and all other forms required by state government.

THE BID SHALL BE AWARDED TO THE LOWEST EVALUATED BIDDER
*****A REVIEW OF ALL PERTINANT INFORMATION LISTED ABOVE SHALL DETERMINE THE AWARDING OF THE BID. ******

2.0 GENERAL REQUIREMENTS FROM THE ARCHITECT

2.1 Bid Documents

The architectural design firm shall supply the detailed drawings (AutoCAD formatted in the latest versions available) required for the proposed project. The drawings shall be utilized as a reference for the requirements for the fire code compliant enclosure(s). The detailed drawing shall show a proposed location of all the system component(s) new and existing, relative to the building floor plan(s). This drawing shall be to scale and accurate to alleviate any questions and or concerns by the contractor. The architectural design firm is responsible for existing conditions, and confirmation of the required quantities and final placement of the new enclosures and if required provide suitable options.

- The architectural design firm shall provide all materials necessary for bidding purposes, drawings specifications and schedules, etc. shall be placed on a CD. A minimum of (12) twelve bid packages will be needed for the selection of the general contractor. Once the contract is awarded to the general contractor (6) six submittal packages will be required for the fire department plan and review
- The architectural design firm shall also provide a legend specific to all the devices showing all specifics and functionalities of all pertinent components.
- Detailed Drawings (all components and their function shall be listed on the drawings). The drawings shall also list UL and ASTM applications specific to each and every appliance and or assembly.
- Wall schedules and door schedules shall be provided for each enclosure.
- General provisions of the contract and agreement with the proposed general contractor. The A.I.A.'s and Division 0 and 1 shall be provided by the architectural design firm.
- The architectural design firm shall schedule project meetings from beginning stages to completion. The architectural design firm shall be required to attend these project meetings and report findings and or determinations to the State of Rhode Island, Department of Administration

3.0 CONSTRUCTION SUPERVISION AND RESPONSIBILITY OF THE CONTRACTOR

- The overall design shall include any and all fire stopping and penetrations for the new construction and any old construction affiliated to the area in which the work is being performed.

Provide samples of color and finishes (trim etc.) for approval to the Department of Administration Also, provide the Rhode Island Department of Administration with the following:

- Listed/rated as compliant by the manufacturer.
- Provide data sheets prior to the installation

A At the time of the bid, document all exceptions in writing and provide a detailed narrative to the State of Rhode Island, Department of Administration and State of Rhode Island, Purchasing Agency. All exceptions and or variances from the original specification as well as any and all substitutions shall also be forwarded to the State of Rhode Island, Department of Administration and State of Rhode Island, Purchasing Agency for final approval. Any such exceptions, variances or substitutions, which were not listed and or approved by the State of Rhode Island, Department of Administration and State of Rhode Island, Purchasing Agency at the time of the bid shall not be approved or considered.

B The work includes all labor, materials, services, tools, transportation and temporary construction necessary to remove the existing building(s) material in manor compliant to current codes and standards. The removal of all existing components if required shall be clearly defined in the architectural design firm specifications and also listed on the drawings.

C The work shall include all labor, materials, services, tools, transportation and temporary construction necessary to fabricate, install, as well as the removal of all debris as result of the project and provide final testing (system has to be fully functional) for a fire code compliant enclosure(s) to each floor and respective stairway

D. The work shall include any and all fees and activities required to secure approvals for state and local permits. The general contractor needs to be made aware of all processes to acquire permits and fees attributed to the project. The State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency are not liable for any fines, fees or add-ons that are a result of errors and omissions found by the Authority Having Jurisdiction. The systems design shall meet and or exceed all current rules and regulations. This is the architectural design firm's responsibility to design a code compliant system as prescribed in current state and federal guidelines. The system shall comply with the current Rhode Island Uniform Fire Code, NFPA (latest adopted version) and ADA as well as any and all local ordinances as adopted by the local municipality.

E. The work includes performing field quality assurances that the fire code compliant enclosure(s) are being installed is to specifications and is acceptable to current codes (The specific and individual UL and ASTM application (s) of each assembly). The architectural design firm shall provide status reports every thirty days and or every benchmark/milestone predetermined by the Rhode Island Department of Administration liaison (person to be determined by the time a purchasing agreement is finalized).

F. The architectural design firm shall evaluate and provide recommendations on the general contractors' application for the request of payment. The request for payment shall correlate with the projects current status.

G. The work includes documenting and submitting the results of integrity and functional testing.

H. The work includes performing a scheduled pre-acceptance test prior to scheduling the final acceptance test with the AHJ. The architectural design firm shall provide adequate documentation to the Rhode Island Department of Administration stating that the system is ready for a final acceptance test with the AHJ.

I. The work also includes the architectural design firm to witness the final acceptance test with the AHJ.

J. The installation/demolition aspects of the project shall address all fire/smoke penetrations as a result of the work performed by the contractor. The penetrations shall meet current rules and regulations.

4.0 CLOSE-OUT DOCUMENTS (REQUIRED)

A. The work includes submitting As-built plans and all closeout documentation to the Rhode Island Department of Administration for final approval. The engineer shall be required to keep all documentation on file for a period of 7 years. This documentation shall be reviewed prior to the owner demonstration and training.

B. Project manual-(technical specifications etc.)

C. Product- equipment data sheets submitted by vendor.

D. The architectural design firm shall recommend a type of door and panic hardware etc. specific to its application that takes in consideration in both the short term and long term goals of the building. The specification shall be submitted for approval by the State of Rhode Island Department of Administration.

E. The "demo" work and patch and repair shall be listed as a duty and responsibility in the architectural design firm's initial design and shall be included and forwarded to the Rhode Island Department of Administration for approval.

F. The architectural design firm shall have the general contractor/distributor/factory representative provide all pertinent operation manuals and a copy of the drawings on a C D to be kept on the premises.

G. The architectural design firm shall also have the installer/distributor/factory representative provide in writing a detailed required maintenance schedule and the frequency the maintenance has to be performed in accordance with Manufacture's specifications. This detailed narrative shall include all equipment necessary to maintain and operate the fire code compliant enclosure(s) (i.e. door hinges, crash bars etc.)

H. The architectural design firm is to monitor and respond to all RFI in a format suitable to the Rhode Island Department of Administration RFI procedure protocol.

5.0 PRIOR TO FINAL PAYMENT

5.1 Prior to final payment, the architectural design firm shall supply the State of Rhode Island Department of Administration and its purchasing agency all appropriate paperwork i.e.: letters of completion from all aforementioned parties along with request for payment.

The architectural design firm shall also:

- A. Monitor the demo work by the general contractor to ensure that the all work is completed. A letter of completion from the general contractor and endorsed by the architectural design firm and shall be forwarded to the Rhode Island Department of Administration for a final review and walk through.
- B. All work shall satisfy current code requirements in regards to abandoning old work (wiring, conduit, old work boxes, and chases etc.).
- C. Monitor that all work is to be completed in a clean and tidy manner and in the event that there is demolishing and or removal of old existing wiring and or appliances, the area affected will be returned to its original specifications
- D. All work shall be completed in a clean and tidy manner; Contractor is responsible for all pertinent fees and permits associated with the work to be preformed prior to any and all work being preformed. All work preformed shall satisfy all local and state rules and regulations. All work is to be tested and inspected by the Providence Fire Department and The Rhode Island State Fire Marshals office. Additionally, all work is to be completed to the satisfaction of the State of Rhode Island Department of Administration. Please submit all appropriate paperwork i.e.: letters of completion from all aforementioned parties with requested payments.

Category 3: Certified Fire Protection Engineering Specifications

Scope of Work: Fire Alarm Review and Engineering.

To be completed at: Rhode Island State Buildings and designated group homes

To be completed by: Work to commence within two weeks of executed agreement and ready to bid within 6-8 weeks after the executed agreement is finalized.

Fire Protection Engineer,

Please utilize this document to for the following work:

SCOPE OF WORK DEFINED

1.1 Scope of work.

The role and responsibilities of the licensed professional electrical or fire protection engineer that is experienced in fire alarm design is as follows:

The engineer shall be required to design a code compliant fire alarm system design including but not limited to a complete voice evacuation system and fire fighter communication system. The design shall be placed into a format suitable for usage for both electrical contractor (licensed for fire alarm installation in the State of Rhode Island) and the State of Rhode Island Department of Administration. All upgrades shall take into account that the devices may be omitted at a later date with the installation of sprinkler system. The intent is to not eliminate the device or coverage but the State of Rhode Island reserves the right to appeal to the Rhode Fire Code Board of appeal and review for possible time extensions in lieu of sprinkler coverage. The engineer shall also monitor the installation of the fire alarm and provide the required documentation to all parties involved with the project through its various stages until the project is complete. Once the project is complete the engineer is to supply the documentation required to accept the system and supply information on how to maintain it.

Reimbursable expenses such as printing, etc. will be paid at the actual cost plus 6%.

All projects must be approved or reviewed with comment(s) by Factory Mutual prior to any and all work is reviewed.

FM GLOBAL FIELD ENGINEERING OFFICE
500 RIVER RIDGE ROAD PO BOX9102
NORWOOD, MA 02062
TEL: (781)440-8000
FAX: (781) 440-8718

1.2 Rationale.

The purpose(s) of retaining the engineer is to ensure that the newly proposed fire alarm design is engineered and monitored through all the phases incorporated with a fire alarm installation. The new fire alarm system will best serve the public and or the building occupants for years to come and also to eliminate the possibilities of adders and further costs related to the proposed project.

1.3 ROLES AND RESPONSIBILITIES-PRE-BID QUALIFICATIONS

The engineer shall have 5-7 years experience in fire alarm design and have had to work on projects that have had favorable final completion.

The engineer shall produce a minimum of three references from previous similar projects. The names and contact information shall be listed on the bid proposal document.

The engineer shall outline previous clients that compare with the requirements attributed to facilitate a favorable outcome on the project. The engineers shall also be intimately familiar with A.I.A.'s and all other forms affiliated in state government.

THE BID SHALL BE AWARDED TO THE LOWEST EVALUATED BIDDER

******A REVIEW OF ALL PERTINANT INFORMATION LISTED ABOVE SHALL DETERMINE THE AWARDING OF THE BID. *******

2.0 GENERAL REQUIREMENTS FROM THE ENGINEER (after bid is awarded)

2.1 Bid Documents

The engineer shall supply the detailed drawings (AutoCAD formatted in the latest versions available) required for the proposed project. The drawings shall be utilized as a reference for the requirements for the new/existing fire alarm system. The detailed drawing shall show a proposed location of all the system component(s) new and existing relative to the building floor plan(s). This drawing shall be to scale and accurate to alleviate any questions and or concerns by the fire alarm installer. The Engineer is responsible for existing conditions, surge protection and confirmation of the required quantities and final placement of the new devices and if required provide suitable options for the location of the same.

The engineer shall also provide a legend specific to all the devices showing all specifics and functionalities of all pertinent components.

Detailed Drawings (all devices and there functionality shall be listed on the drawings). The drawings shall also list candela and decibel values specific to each and every notification appliance as well as ensure proper spacing and placement.

General provisions of the contract and agreement with the proposed fire alarm installer. The A.I.A.'s and Division 0 and 1 shall be provided by the engineer.

The Engineer shall schedule project meetings from beginning stages to completion. The engineer shall be required to attend to these project meetings and report findings and or determinations to State of Rhode Island Department of Administration.

3.0 CONSTRUCTION ADMINISTRATION AND OVERSITE

A At the time of the bid, document all exceptions in writing and provide a detailed narrative to the State of Rhode Island Department of Administration, and State of Rhode Island Purchasing Agency. All exceptions and or variances from the original specification as well as any and all substitutions shall also be forwarded to the State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency for final approval. Any such exceptions, variances or substitutions, which were not listed and or approved by the State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency at the time of the bid shall not be approved or considered.

B. The work includes all labor, materials, services, tools, transportation and temporary construction necessary to remove the existing building(s) fire alarm system in manor compliant to current codes and standards. The removal of all existing components if required shall be clearly defined in the engineer's specifications and also listed on the drawings. The demolished materials shall be returned in good condition to the owner.

C. The work shall include all labor, materials, services, tools, transportation and temporary construction necessary to fabricate, install, program and provide final testing (system has to be fully functional) for a UL listed fire alarm system compliant to R.I.U.F.C (latest current edition).

D. The work shall include any and all fees and activities required to secure approvals for state and local permits. The Fire Alarm installer needs to be made aware of all processes to acquire permits and fees attributed to the project. The State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency are not liable to any fines, fees or adders that are in result to errors and omissions found by the AHJ. The systems design shall meet and or exceed all current rules and regulations. This is the engineer's responsibility to design a code compliant system as prescribed in current state and federal guidelines. The system shall comply with the current Rhode Island Uniform Fire Code and ADA as well as any and all local ordinance as adopted by the local municipality

E. The work includes performing field quality assurances that the system installed is being installed is to specifications and acceptable to current codes (wiring and methodology). The Engineer shall provide status reports every thirty days and or every benchmark/ milestone predetermined by the Rhode Island Department of Administration liaison (person to be determined at bid awarding negotiations).

F. The engineer shall evaluate and provide recommendations on the electrician application for the request of payment. The request for payment shall correlate with the projects current status.

G. The work includes documenting and submitting the results of integrity and functional testing. This documentations is to include battery calculations, voltage drop etc.

H. The work includes performing a scheduled pre-acceptance test prior to scheduling the final acceptance test with the AHJ. The engineer shall provide adequate documentation to the Rhode Island Department of Administration stating that the system is ready for a final acceptance test with the AHJ. This documentation is also to include the mandatory battery stand by functionality test.

I. The work also includes the engineer to witness the final acceptance test with the AHJ.

J. The fire alarm installation/demolishing aspect shall address all fire/smoke penetrations as result to the work preformed by the contractor. The penetrations shall meet current rules and regulations

4.0 CLOSE-OUT DOCUMENTS (REQUIRED)

A. The work includes submitting As-built plans and all closeout documentation to the Rhode Island Department of Administration for final approval. The engineer shall be

required to keep all documentation on file for a period 7 years. This documentation shall be reviewed prior to the owner demonstration and training.

B. Project manual-(technical specifications etc.)

C. Product- equipment data sheets submitted by vendor

D. Detailed fire alarm riser.

-Type of wire-(color)

-Type of enclosure and connection

-Isolation as per current rules and regulations also to include before and after all power supplies and master box locations.

- Point to points on all pertinent fire alarm equipment in the event that the fire alarm components need too be replaced in the course of service to the facility.

E. The engineer shall recommend a type of fire alarm system specific to its application that takes in consideration in both the short term and long term goals of the building. The fire alarm type and specification shall be submitted for approval by the State of Rhode Island Department of Administration.

F. The “demo” work as well as patch and repair shall listed as a duty and responsibility in the engineers initial design and shall be included and forwarded to the Rhode Island Department of Administration for approval

G. The engineer shall have the fire alarm installer/distributor/factory representative provide all pertinent operation manuals and a copy of the final programming on a C D. to be kept on the premises. The engineer shall also have the fire alarm installer/distributor/factory representative provide in writing a detailed required maintenance schedule and the frequency the maintenance has to be preformed in accordance to Manufactures specifications. This detailed narrative shall include all equipment necessary to maintain and operate the fire alarm system (remote power supplies isolation modules etc.)

H. The engineer is to monitor and respond to all RFI in formal format suitable to the Rhode Island Department of Administration RFI procedure protocol

5.0 PRIOR TO FINAL PAYMENT

5.1 Prior to final payment the engineer shall supply the State of Rhode Island Department of Administration and State of Rhode Island Purchasing Agency All appropriate paperwork i.e.: letters of completion from all aforementioned parties along with request for payment

The engineer shall also:

A. Monitor the demo work as well as patch and repair shall be predetermined as the engineers initial design and shall be included and forwarded to the Rhode Island Department of Administration for final approval.

B. All work shall satisfy current code requirements in regards to abandoning old work (wiring, conduit old work boxes, and chases etc.)

C. Monitor that all work is completed in a clean and tidy manor and in the event that there is demolishing and or removal of old existing wiring and or appliances the area affected is returned to its original specifications

D. All work shall be completed in a clean and tidy manor; Contractor is responsible for all pertinent fees and permits associated with the work to be preformed prior to any and all work is to be preformed. All work preformed shall satisfy all local and state rules and regulations. All work is to be tested and inspected by the local Fire Department and The Rhode Island State Fire Marshals office. Additionally, all work is to be completed to the satisfaction of the State of Rhode Island Department of Administration. Please submit all appropriate paperwork i.e.: letters of completion from all aforementioned parties with request payment.

Category 4: Fire Alarm Installer Specifications

Certified/Licensed Fire Alarm electricians

Scope of Work: Fire alarm upgrade(s).

Electrical Contractors,

Please utilize this document to for the following work:

Scope of work:

To install a fire alarm system in state owned facilities. The requirements shall apply to new installs and partial upgrades to existing systems.

The Electrical shall also have to comply with the following specification at it relates to the proposed installation of the new fire alarm control panel:

Reimbursable expenses such as printing, etc. will be paid at the actual cost plus 6%

FIRE DETECTION AND ALARM SYSTEM REPORTING FIRE DETECTION SYSTEM PART 1 GENERAL

1.1 RELATED SECTIONS

1.1 DESCRIPTION

A This section of the specification includes the furnishing, installation, connection and testing of the fire alarm equipment required forming a complete, operative, coordinated system.

It shall include, but not be limited to, alarm initiating devices, alarm notification appliances, Fire Alarm Control Panel (FACP), auxiliary control devices, annunciators, and wiring as shown on the drawings and specified herein.

B The fire alarm system shall comply with requirements of NFPA Standard 72 for Protected Premises Signaling Systems except as modified and supplemented by this specification. The system shall be electrically supervised and monitor the integrity of all conductors.

C. The fire alarm system shall be manufactured by an ISO 9001 certified company and meet the requirements of BS EN9001: ANSI/ASQC Q90011994.

D The FACP and peripheral devices shall be manufactured 100% by a single U.S. manufacturer (or division thereof).

E. The system and its components shall be Underwriters Laboratories, Inc listed under the appropriate UL testing standard as listed herein for fire alarm applications and the installation shall be in compliance with the UL listing.

F. The installing company shall employ NICET (minimum Level II Fire Alarm Technology) technicians on site to guide the final checkout and to ensure the systems integrity.

1.2. SCOPE

A A new Fire Alarm control panel and or a complete fire alarm system shall be installed in accordance to the project specifications and drawings.

B Basic Performance:

1. Alarm, trouble and supervisory signals from all intelligent reporting devices shall be encoded on NFPA Style 4 (Class B) Signaling Line Circuits (SLC).
2. Initiation Device Circuits (IDC) shall be wired Class A (NFPA Style D) as part of an addressable device connected by the SLC Circuit
3. Notification Appliance Circuits (NAC) shall be wired Class A (NFPA Style Z) as part of an addressable device connected by the SLC Circuit.
4. On Style 6 or 7 (Class A) configurations a single ground fault or open circuit on the system Signaling Line Circuit shall not cause system malfunction, loss of operating power or the ability to report an alarm.
5. Alarm signals arriving at the FACP shall not be lost following a primary power failure (or outage) until the alarm signal is processed and recorded.

C. BASIC SYSTEM FUNCTIONAL OPERATION

When a fire alarm condition is detected and reported by one of the system initiating devices, the following functions shall immediately occur:

1. The system alarm LED on the system display shall flash.
2. A local piezo electric signal in the control panel shall sound.
3. A backlit LCD display shall indicate all information associated with the fire alarm condition, including the type of alarm point and its location within the protected premises.
4. Printing and history storage equipment shall log the information associated each new fire alarm control panel condition, along with time and date of occurrence.
5. All system output programs assigned via control by event Interlock programming to be activated by the particular point in alarm shall be executed, and the associated system outputs (notification appliances and/or relays) shall be activated.

1.3. SUBMITTALS

A General:

- A1. Provide data sheet(s) and compatibility documentation to Rhode Island Department of Administration prior to the installation.

- A2. Provide the State of Rhode Island Department of Administration and Rhode Island State Fire Marshals office a battery calculations and detailed riser and as well as all other related materials required for a successful plan and review

- A3. All upgrades shall take into account that the devices may be omitted at a later date with the installation of sprinkler system. The intent is to not eliminate the device or coverage but the State of Rhode Island reserves the right to appeal to the Rhode Fire Code Board of appeal and review for possible time extensions in lieu of sprinkler coverage

1. Five copies of all submittals shall be submitted to the State of Rhode Island Department of Administration and Rhode Island State Fire Marshals office for review. Contractor is responsible for pulling all appropriate permits and is subject to inspection by the Rhode Island electrical inspection at the rough in phase of the project. The Rhode Island electrical inspection department shall notify the Department of Administration in writing that the project wiring has been deemed acceptable prior to any installation of new fire alarm components.

2. All references to manufacturer's model numbers and other pertinent information herein is intended to establish minimum standards of performance, function and quality. Equivalent compatible UL listed equipment from other manufacturers may be substituted for the specified equipment as long as the minimum standards are met.
3. For equipment other than that specified, the contractor shall supply proof that such substitute equipment equals or exceeds the features, functions, performance, and quality of the specified equipment.

A. Shop Drawings:

1. Sufficient information, clearly presented, shall be included to determine compliance with drawings and specifications.
2. Include manufacturer's name(s), model numbers, ratings, power requirements, equipment layout, device arrangement, complete wiring point to point diagrams, and conduit layouts.
3. Show annunciator layout, configurations, and terminations

B. Manuals:

1. Submit simultaneously with the shop drawings, complete operating and maintenance manuals listing the manufacturer's name(s), including technical data sheets.
2. Wiring diagrams shall indicate internal wiring for each device and the Inter connections between the items of equipment.
3. Provide a clear and concise description of operation that gives, in detail, the information required to properly operate the equipment and system

C. Software Modifications

1. Provide the services of a factory trained and authorized technician to perform all system software modifications, upgrades or changes.
Response time of the technician to the site shall not exceed 4 hours
2. Provide all hardware, software, programming tools and documentation necessary to modify the fire alarm system on site. Modification includes addition and deletion of devices, circuits, zones and changes to system operation and custom label changes for devices or zones. The system structure and software shall place no limit on the type or extent of software modifications onsite.

D. Certifications:

Together with the shop drawing submittal, submit a certification from the major equipment manufacturer indicating that the proposed supervisor of the installation and the proposed performer of contract maintenance is an authorized representative of the major equipment manufacturer. Include names and addresses in the certification.

1.4. GUARANTY:

All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance. The full cost of maintenance, labor and materials required to correct any defect during this one year period shall be included in the submittal bid

1.5. POST CONTRACT MAINTENANCE:

A. Complete maintenance and repair service for the fire alarm system shall be available from a factory trained authorized representative of the manufacturer of the major equipment for a period of five (5) years after expiration of the guaranty

B. As part of the bid/proposal, include a quote for a maintenance contract to provide all maintenance, tests, and repairs described below. Include also a quote for unscheduled maintenance/repairs, including hourly rates for technicians trained on this equipment, and response travel costs for each year of the maintenance period. Submittals that do not identify all post contract maintenance costs will not be accepted. Rates and costs shall be valid for the period of five (5) years after expiration of the guaranty.

C. Maintenance and testing shall be on a semiannual basis or as required by the AHJ. A preventive maintenance schedule shall be provided by the contractor describing the protocol for preventive maintenance. The schedule shall include:

1. Systematic examination, adjustment and cleaning of all detectors, manual fire alarm stations, control panels, power supplies, relays, waterflow switches and all accessories of the fire alarm system
2. Each circuit in the fire alarm system shall be tested semiannually.
3. Each smoke detector shall be tested in accordance with the requirements of NFPA 72 Chapter 7.

D. All work shall be completed in a clean and tidy manor; Contractor is responsible for all pertinent fees and permits associated with the work to be preformed prior to any and all work is to be preformed. All work preformed shall satisfy all local and state rules and regulations. All work is to be tested and inspected by the State fire Marshals office and or their designee. Additionally, all work is to be completed to the satisfaction of the State of Rhode Island Department of Administration. Please submit all appropriate paperwork i.e.: letters of completion from all aforementioned parties with request payment.

1.6. POST CONTRACT EXPANSIONS:

A. The contractor shall have the ability to provide parts and labor to expand the system specified, if so requested, for a period of five (5) years from the date of acceptance.

B. As part of the submittal, include a quotation for all parts and material, and all installation and test labor as needed to increase the number of intelligent or conventional devices by ten percent (10%). This quotation shall include smoke detectors, heat detectors, manual stations, monitor modules and modules equal in number to one tenth of the number required to meet this specification (list actual quantity of each type).

C. Submittals that do not include this estimate of post contract expansion cost will not be accepted.

1.7. APPLICABLE STANDARDS AND SPECIFICATIONS:

The specifications and standards listed below form a part of this specification. The system shall fully comply with the latest issue of these standards, if applicable.

- A. National Fire Protection Association (NFPA) USA:
 - No. 12 CO2 Extinguishing Systems (low and high)
 - No. 12B Halon 1211 Extinguishing Systems
 - No. 13 Sprinkler Systems

- No. 13A Halon 1301 Extinguishing Systems
- No. 15 Water Spray Systems
- No. 16 Foam/Water Deluge and Spray Systems
- No. 17 Dry Chemical Extinguishing Systems
- No. 17A Wet Chemical Extinguishing Systems

Clean Agent Extinguishing Systems

- No. 72 National Fire Alarm Code
- No. 101 Life Safety Code
- B. Underwriters Laboratories Inc. (UL) USA:
 - No. 268 Smoke Detectors for Fire Protective Signaling Systems
 - No. 864 Control Units for Fire Protective Signaling Systems
 - No. 268A Smoke Detectors for Duct Applications
 - No. 521 Heat Detectors for Fire Protective Signaling Systems
 - No. 464 Audible Signaling Appliances
 - No. 38 Manually Actuated Signaling Boxes
 - No. 346 Waterflow Indicators for Fire Protective Signaling Systems
 - No. 1076 Control Units for Burglar Alarm Proprietary Protective Signaling Systems
- No. 1971 Visual Notification Appliances
- C. Local and State Building Codes.
- D. All requirements of the Authority Having Jurisdiction (AHJ).
- E. The Video Display Terminal (VDT) shall comply with Swedish magnetic emission and Xradiation guidelines MPR 1990:10.

1.8. APPROVALS:

- A. The system shall have proper listing and/or approval from the following nationally recognized agencies:
 - UL Underwriters Laboratories Inc
 - ULC Underwriters Laboratories Canada
- B. The fire alarm control panel shall meet UL Standard 864 (Control Units) and UL Standard 1076 (Proprietary Burglar Alarm Systems).
- C. The system shall be listed by the national agencies as suitable for extinguishing release applications. The system shall support release of high and low pressure CO₂.

1.9. COMPONENTS

- A. All equipment and components shall be new, and the manufacturer's current model. The materials, appliances, equipment and devices shall be tested and listed by a nationally recognized approvals agency for use as part of a protective signaling system, meeting the National Fire Alarm Code.
- B. All equipment and components shall be installed in strict compliance with manufacturers' recommendations. Consult the manufacturer's installation manuals for all wiring diagrams, schematics, physical equipment sizes, etc., before beginning system installation.
- C. All equipment shall be attached to walls and ceiling/floor assemblies and shall be held firmly in place (e.g., detectors shall not be supported solely by suspended ceilings). Fasteners and supports shall be adequate to support the required load.

D Contractor shall comply with Rhode Island general laws and rules as dictated in the latest adopted version of the RI Fire Safety Code, Rhode Island Life Safety Code ,NFPA 70 and NFPA 72.

1.9.1 CONDUIT AND WIRE:

A. Conduit:

1. Conduit shall be in accordance with The National Electrical Code (NEC), local and state requirements.
2. Where required, all wiring shall be installed in conduit or raceway. Conduit fill shall not exceed 40 percent of interior cross sectional area where three or more cables are contained within a single conduit.
3. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors, per NEC Article 76055
- 4 Wiring for 24 volt DC control, alarm notification, emergency communication and similar power limited auxiliary functions may be run in the same conduit as initiating and signaling line circuits. All circuits shall be provided with transient suppression devices and the system shall be designed to permit simultaneous operation of all circuits without interference or loss of signals.
5. Conduit shall not enter the fire alarm control panel, or any other remotely mounted control panel equipment or back boxes, except where conduit entry is specified by the FACP manufacturer
6. Conduit shall be 3/4inch (19.1 mm) minimum.

B. Wire:

1. All fire alarm system wiring shall be new
2. Wiring shall be in accordance with local, state and national codes (e.g., NEC Article 760) and as recommended by the manufacturer of the fire alarm system. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 18 AWG (1.02 mm) for Initiating Device Circuits and Signaling Line Circuits, and 14 AWG (1.63 mm) for Notification Appliance Circuits.
- 3 All wire and cable shall be listed and/or approved by a recognized testing agency for use with a protective signaling system.
- 4 Wire and cable not installed in conduit shall have a fire resistance rating suitable for the installation as indicated in NFPA 70 (e.g., FPLR).
5. Wiring used for the multiplex communication circuit (SLC) shall as per manufacture recommendation and current code. The design of the system shall permit use of IDC and NAC wiring in the same conduit with the SLC communication circuit.
- 6 All field wiring shall be electrically supervised for open circuit and ground fault.

C. Terminal Boxes, Junction Boxes and Cabinets:

All boxes and cabinets shall be UL listed for their use and purpose

D. Initiating circuits shall be arranged to serve like categories (manual, smoke, waterflow). Mixed category circuitry shall not be permitted except on signaling line circuits connected to intelligent reporting devices

E The fire alarm control panel shall be connected to a separate dedicated branch

circuit, maximum 20 amperes. This circuit shall be labeled at the main power distribution panel as FIRE ALARM. Fire alarm control panel primary power wiring shall be 12 AWG. The control panel cabinet shall be grounded securely to either a cold water pipe or grounding rod.

2.0. BATTERIES:

A The battery shall have sufficient capacity to power the fire alarm system for not less than (60) sixty hours plus 5 minutes of alarm upon a normal AC power failure for a municipal system and (24) twenty four hours for a local system

B The batteries are to be completely maintenance free. No liquids are required. Fluid level checks for refilling, spills, and leakage shall not be required.

C. If necessary to meet standby requirements, external battery and charger systems may be used.

PART 3.0 EXECUTION

3.1. INSTALLATION:

A Installation shall be in accordance with the NEC, NFPA 72, local and state codes, as shown on the drawings, and as recommended by the major equipment manufacturer.

B. All conduit, junction boxes, conduit supports and hangers shall be concealed in finished areas and may be exposed in unfinished areas. Smoke detectors shall not be installed prior to the system programming and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.

C. All fire detection and alarm system devices, control panels and remote annunciators shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas.

D. Manual fire alarm boxes shall be suitable for surface mounting or semi flush mounting as shown on the plans, and shall be installed not less than 42 inches (1067 mm), nor more than 48 inches (122 mm) above the finished floor.

3.2. TEST:

The service of a competent, factory trained engineer or technician authorized by the manufacturer of the fire alarm equipment shall be provided to technically supervise and participate during all of the adjustments and tests for the system. All testing shall be in accordance with NFPA 72, Chapter 7. The test shall also comply with the RI Fire Alarm Code (pretest) and a NFPA 72 record of completion shall be forwarded to the RI Department of Administration.

A. Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.

B. Close each sprinkler system flow valve and verify proper supervisory alarm at the FACP

C. Verify activation of all water flow switches

D. Open initiating device circuits and verify that the trouble signal actuates.

E. Open and short signaling line circuits and verify that the trouble signal actuates.

F. Open and short notification appliance circuits and verify that trouble signal actuates.

- G Ground all circuits and verify response of trouble signals.
- H Check presence and audibility of tone at all alarm notification devices.
- I Check installation, supervision, and operation of all intelligent smoke detectors using the walk test.
- J Each of the alarm conditions that the system is required to detect should be introduced on the system. Verify the proper receipt and the proper processing of the signal at the FACP and the correct activation of the control points.
- K When the system is equipped with optional features, the manufacturer's manual shall be consulted to determine the proper testing procedures. This is intended to address such items as verifying controls performed by individually addressed or grouped devices, sensitivity monitoring, verification functionality and similar.

3.3. FINAL INSPECTION:

A At the final inspection, a factory trained representative of the manufacturer of the major equipment shall demonstrate that the system functions properly in every respect and the test shall comply with the Rhode Island Fire Alarm final acceptance test.

3.4. INSTRUCTION:

A. Instruction shall be provided as required for operating the system. Hands on demonstrations of the operation of all system components and the entire system including program changes and functions shall be provided

B The contractor and/or the systems manufacturer's representatives shall provide a Type written "Sequence of Operation."

C A set of as built, point to points on all fire alarm components, a copy of final programming (hard Copy and CD) and service manual shall be left with the RI Department of Administration.

All work shall be completed in a clean and tidy manor; Contractor is responsible for all pertinent fees and permits associated with the work to be preformed prior to any and all work is to be preformed. All work preformed shall satisfy all local and state rules and regulations. All work is to be completed to the satisfaction of the State of Rhode Island Department of Administration. Please submit all appropriate paperwork i e : letters of completion from all aforementioned parties with request payment

AGENCY	BIDS ARE REVIEWED	BID IS AWARDED	REVIEW PROCESS - PLANS AND SUBMITTALS	ENGINEER PREPARES BID TO GET CONTRACTOR	CONTRACTOR IS CHOSEN AND CONTRACT AWARDED	PERMIT PROCESS NFPA 72- R.O.C. (given out by electrical inspector)	PROJECT STARTS WHEN LETTERS AND PERMITS ARE IN PLACE	"ROUGH IN" INSPECTION (Electrical inspector signs NFPA 72- R.O.C.)	FINAL INSPECTION	DOCUMENTATION FURNISHED BY THE VENDOR GOES TO THE FOLLOWING.	PAYMENT IS RENDERED TO VENDOR
Category 1: Sprinkler Review & Engineering											
State Agency (MHRH etc.)	X			X	X					X	
State Agency Director											
Rhode Island Department of Administration Executive Directors Office											
Rhode Island Department of Administration Central Business Office											
Rhode Island Department of Purchasing Office	X			X	X						
Rhode Island State Fire Marshals Office			X			X		X	X*	X	
Rhode Island State Building Commissioners Office			X			X		X*	X	X	
Rhode Island Department of Administration Facilities Management Office	X		X	X	X			X	X*	X*	

*letter is needed

PART 2 FLOW CHART FOR ARCHITECTURAL SERVICES

AGENCY	BIDS ARE REVIEWED	BID IS AWARDED	REVIEW PROCESS PLANS AND SUBMITTALS	ENGINEER PREPARES BID TO GET CONTRACTOR	CONTRACTOR IS CHOSEN AND AWARDED CONTRACT	PERMIT PROCESS NFPA 72-R.O.C. (given out by electrical inspector)	PROJECT STARTS WHEN LETTERS AND PERMITS ARE IN PLACE	"ROUGH IN" INSPECTION (Electrical inspector signs NFPA 72-R.O.C.)	FINAL INSPECTION	DOCUMENTATION FURNISHED BY THE VENDOR GOES TO THE FOLLOWING:	PAYMENT IS RENDERED TO VENDOR
State Agency (MHRH etc.)	X										
State Agency Director											
Rhode Island Department of Administration Executive Directors Office											
Rhode Island Department of Administration Central Business Office											
Rhode Island Department of Purchasing Office	X										
Rhode Island State Fire Marshals Office			X	X		X	X	X	X*	X	
Rhode Island State Building Commissioners Office			X	X		X	X	X*	X	X	
Rhode Island Department of Administration Facilities Management Office	X		X			X	X	X	X*	X	

*letter is needed

PART 3 FLOWCHART FOR FIRE ALARM ENGINEERING SERVICES

AGENCY	BIDS ARE REVIEWED	BID IS AWARDED	REVIEW PROCESS - PLANS AND SUBMITTALS	ENGINEER PREPARES BID TO GET CONTRACTOR	CONTRACTOR IS CHOSEN AND AWARDED CONTRACT	PERMIT PROCESS (NPPA 72-R.O.C. given out by electrical inspector)	PROJECT STARTS WHEN LETTERS ARE IN PLACE	"ROUGH-IN" INSPECTION (Electrical inspector signs NPPA 72-R.O.C.)	FINAL INSPECTION	DOCUMENTATION FURNISHED BY THE VENDOR GOES TO THE FOLLOWING:	PAYMENT IS RENDERED TO VENDOR
Category 3: Certified Fire Protection Engineering											
State Agency (MHRH etc.)	X			X	X					X	
State Agency Director											
Rhode Island Department of Administration Executive Directors Office											
Rhode Island Department of Administration Central Business Office											
Rhode Island Department of Purchasing Office	X			X	X						
Rhode Island State Fire Marshals Office			X			X		X	X*	X*	
Rhode Island State Building Commissioners Office			X			X		X*	X	X*	
Rhode Island Department of Administration Facilities Management Office	X		X	X	X			X	X*	X*	

*letter is needed

PART 4 FLOW CHART FOR FIRE ALARM INSTALLERS SERVICES

AGENCY	BIDS ARE REVIEWED	BID IS AWARDED	REVIEW PROCESS - PLANS AND SUBMITTALS	ENGINEER PREPARES BID TO GET CONTRACTOR	CONTRACTOR IS CHOSEN AND AWARDED CONTRACT	PERMIT PROCESS NFPA 72- R.O.C. (given out by electrical inspector)	PROJECT STARTS WHEN LETTERS AND PERMITS ARE IN PLACE	"ROUGH IN" INSPECTION (Electrical inspector signs NFPA 72- R.O.C.)	FINAL INSPECTION	DOCUMENTATION FURNISHED BY THE VENDOR GOES TO THE FOLLOWING:	PAYMENT IS RENDERED TO VENDOR
Category 4: Fire Alarm Installers											
State Agency (MHRH etc.)	X							X			
State Agency Director											
Rhode Island Department of Administration Executive											
Directors Office											
Rhode Island Department of Administration Central Business Office											
Rhode Island Department of Purchasing Office	X										
Rhode Island State Fire Marshals Office			X	X		X	X	X	X*		
Rhode Island State Building Commissioners Office			X	X		X	X	X*	X		
Rhode Island Department of Administration Facilities Management Office	X		X			X	X	X	X*		

*letter is needed