RIANG – WARWICK ARMORY

UPGRADES TO BUILDING 1 & 3

541 AIRPORT ROAD

WARWICK, RI 02886

RHODE ISLAND NATIONAL GUARD

645 NEW LONDON AVENUE

CRANSTON, RI 02920

ENGINEERING DESIGN SERVICES, INC
141 INDUSTRIAL DRIVE
SLATERSVILLE, RI 02876
401.765.7659

SECTION 011100 - SUMMARY OF WORK

A. Project Number 16096GN is entitled "RIANG ARMORY" located at 541 Airport Road, Warwick, RI. The two buildings are to be completed and ready for use by the Owner within the Contract Time specified in the Bid Form.

B. The Project Description:

1. The project consists of refurbishing and (or) replacing the existing HVAC systems and replacing ceilings in two existing buildings, the Armory Building (Building Number 1) and Building Number 3.

C. Summary of Work includes but is not limited to the following:

1. Modify piping and ductwork systems as required for the system upgrades.
2. Replace all air handling equipment including Packaged Rooftop Units, Air handling Units, VAV Boxes, duct heating coils and split systems. Exhaust fans shall not be replaced unless noted on plans.
3. New non-proprietary control system (EMS). In addition to HVAC, the domestic water system shall also be controlled by the EMS.
4. Plumbing and electrical work as required to support system and equipment changes.
    a. Plumbing work shall include new Gas meter, piping, fittings, joints, valves, hangers, supports, accessories, and pipe trenching as required to support system and equipment changes.
    b. Natural Gas Piping 2-1/2 in. and Larger: Schedule 40, black steel pipe (ASTM A120) with Schedule 40, black steel fittings. Pipe joints shall be welded or flanged.
    c. Natural Gas Piping and Gas Train Vents 2 in. and Smaller: Schedule 40, black steel pipe (ASTM B16.3) with 125-psi malleable iron, screwed fittings.
5. New suspended ceilings in all areas except the bathrooms, which are covered in another contract, existing lighting fixtures in these areas to be removed & replaced according to the plans.
6. Sprinkler head relocation~~s~~ and replacement as required for new ceiling layouts.
7. Removal and replacement of existing fire alarm system with a new fully addressable fire alarm system.
8. Structural modifications required for new HVAC system.
9. Abatement of asbestos in Buildings No.1 and No.3.

D. The Contractor will include in his bid, all items required in order to carry out the intent of the work as described, shown and implied in the Contract Documents.

E. It shall be the Contractor's responsibility upon discovery to immediately notify the Construction Administrator, in writing, of errors, omissions, discrepancies, and

instances of noncompliance with applicable codes and regulations within the documents, and of any work, which will not fit or properly function if installed as indicated on the Contract Documents. Any additional costs arising from the Contractor's failure to provide such notification shall be borne by the Contractor.

F. The Work will be constructed under a single lump sum contract.

G. The submitted "Bid Form", Section 00300, shall become part of the contract and specifications.

H. Work Sequence - Phase(s):

1. Contractor shall coordinate the work with the Owner and the Warwick Latrines Modernization Project.
2. Work shall be substantially complete within 120 Calendar Days of commencement of the Work and final completion, ready for occupancy 30 Calendar Days after substantial completion.

SECTION 011101 - GENERAL CONDITIONS

A. The General Conditions to be utilized on this project are AIA Document A201-2007, amended to delete Article 4. Provisions which are not so amended or supplemented remain in full force and effect. Where there is a conflict between that document and these specifications, these specifications shall prevail. The Bidder hereby acknowledges that it has reviewed AIA Document A201-2007 as amended, and hereby accepts that form except as to the items noted therein to be completed upon award.

SECTION 011102 - ASBESTOS ABATEMENT

A. The Owner has engaged ECM to provide an abatement plan. The abatement plan will be provided by the Owner before or during the time of bid preparation.

SECTION 011105 - OWNER

A. Owner: The Owner is: State of Rhode Island located at 705 New London Avenue, Cranston, Rhode Island, 02920.

1. The Owner Representative has the administrative authority for the facility and or site where the work is being performed and does have the authority to change the contract documents or direct the contractor.

SECTION 011110 - ENGINEER

A. The Engineering firm is Engineering Design Services, Inc, and is located at 1 4 1 Industrial Drive, Slatersville RI.

1. The Engineer representing the firm for this project is William T. Mayer,

PE, Principal.

a. Phone: 401.765.7659

b. Email: wmayer@edesignservice.com

2. Contact person shall be Gianni Ruggiero.

a. Phone: 401.765.7659

b. Email: gruggiero@edesignservice.com

3. The Engineer or their accredited representative is referred to in the Contract Documents as "Engineer" or "Engineers" or by pronouns which imply them. As information for the Contractor, the Engineer's status is defined as follows:

a. The Engineer will not make interpretations or decisions directly to the Contractor. All interpretations or decisions will be conveyed through the Construction Administrator or Owner.

b. As the authorized representative of the Owner, the Engineer is responsible for review of shop drawings, materials, and equipment intended for the work, in accordance with the "General Conditions".

4. Wherever the Engineer is mentioned in the documents in connection with an administrative function, it shall include the Construction Administrator in that function except for shop drawings.

SECTION 011115 - CONSTRUCTION ADMINISTRATOR:

A. The Construction Administrator:

1. The Construction Administrator is referred to in the Contract Documents as "Construction Administrator" or "Construction Manager" or by pronouns which imply it. All communications concerning the project will be directed through the Construction Administrator or a designated representative(s).

2. As information to the Contractor, the Construction Administrator’s status is defined as follows:

a. The Construction Administrator is the Owner's Agent who will, among other thing’s, monitor the General Contractor's performance, scheduling and construction, process shop drawings, material, and equipment submittals, review and process periodic billings, review and recommend cost changes.

b. The Construction Administrator will process all requests for information, interpretations and decisions regarding the meaning and intent of the Contract Documents, consulting with appropriate parties prior to rendering the interpretations or decisions to the Contractor. All such requests and replies shall be in writing.

SECTION 011120 - EXAMINATION OF SITE

A. It is not the intent of the Documents to show all existing conditions. All contractors are advised to visit and examine the site with the Construction Administrator prior to submitting bids.

B. Contractors should investigate and satisfy themselves as to the conditions affecting the work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, uncertainties of weather, roads or similar physical conditions of the ground, the character of equipment, and facilities needed preliminary to and during the prosecution of the Work. The Contractor should further satisfy himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, as well as from information presented by the Contract Documents. Any failure by the Contractor to acquaint himself with the available information shall not relieve him from the responsibility for estimating properly the difficulty and cost of successfully performing the Work.

C. Pre-Bid Conference:

1. A Pre-Bid Conference and tour of the site will be conducted as scheduled in the Notice to Bidders. This scheduled conference is the only official opportunity for the bidders to tour the site with the Owner, Architect, Engineer, and Construction Administrator.

SECTION 011130 - PROJECT DOCUMENTS

A. The Specifications and Drawings are intended to describe and illustrate the materials and labor necessary for the work of this Project.

SECTION 011140 - DOCUMENTS FURNISHED

A. The General Contractor will be given one (1) paper copy set and an electronic copy set of the Contract Documents on or about the time of execution of Contract, free of charge. If additional copies are wanted, they will be available at the direct additional cost of their reproduction, to the contractor.

SECTION 011160 - OCCUPANCY REQUIREMENTS

A. Full Owner Occupancy During Construction: The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

1. Provide adequate building and fire code egress from the buildings during the renovation process. The Contractor will be responsible to maintain and protect egress ways during the construction sequence per the design as supplied by the Engineer. Contractor shall be responsible for preparing egress plans for Owner approval and for Office of State Building Official and Office of State Fire Marshal for approval if required.

B. Partial Owner Occupancy: The Owner reserves the right to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.

1. Should it become necessary or advisable, as the work nears final completion, for the Owner to occupy a portion of the building prior to final acceptance, the Contractor shall cooperate in completing such areas and making same accessible.
2. The Construction Administrator will determine whether such occupancy or use is possible and, if so, will make arrangements for holding a job inspection with the Project Manager, Owner's Representative, Engineer and General Contractor.
3. A comprehensive list of items to be completed or corrected as issued by the General Contractor, together with the status of completion and terms of occupancy, will be forwarded to the Engineer by the Construction Administrator. A letter will be issued by the Construction Administrator and Engineer to the Owner granting such occupancy and will state the terms and conditions of occupancy.
4. Prior to partial Owner occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy, the Owner will operate and maintain mechanical and electrical systems serving occupied portions of the building.
5. Upon occupancy, the Owner will assume responsibility for maintenance and custodial service for occupied portions of the building.
6. Work after Partial Owner Occupancy:
   a. For all work to complete the area occupied, warranty work, the balancing and commissioning of systems, repair of latent defects and adjustments after partial occupancy, the contractor is responsible for all costs associated with working in occupied buildings.

C. Owner Occupancy**:**

1. The Construction Administrator will determine whether such occupancy is possible and, if so, will make arrangements for holding a job inspection with the Owner Representative, Engineer and General Contractor.
2. A comprehensive list of items to be completed or corrected as issued by the General Contractor, together with the status of completion and terms of occupancy, will be forwarded to the Contractor by the Engineer and the Construction Administrator.
3. Prior to Owner occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed.

Upon occupancy, the Owner will operate and maintain mechanical and electrical systems serving occupied portions of the building.

4. The Engineer will prepare a **"**Certificate of Substantial Completion" for the Work to be occupied prior to Owner occupancy. Use the "Certificate of Substantial Completion" form as required by the Owner.
5. A letter from the Construction Manager to the Owner Representative with copy to the General Contractor granting occupancy will state the terms and conditions of occupancy and that fire insurance coverage has been requested, the effective date of which will indicate to the Contractor that he may cancel fire insurance coverage for the project.
6. Upon occupancy, the Owner will assume responsibility for maintenance and custodial service for occupied portions of the building.
7. Work after Owner Occupancy:
   a. For all work to complete the occupied building, warranty work, the balancing and commissioning of systems, repair of latent defects and adjustments after occupancy, the contractor is responsible for all costs associated with working in occupied buildings.

SECTION 011413 - CONTRACTOR'S USE OF PREMISES

A. The Contractor shall confine his operations, including storage of apparatus, equipment and materials to the contract limit lines as directed by the Construction Administrator.

B. The areas and/or spaces, including their access, shall be maintained free and clear throughout the contract term.

C. Parking for Contractor's employees will be limited to an area (or areas) designated by the Construction Administrator. The Contractor may be required to provide identification stickers for employees' cars.

SECTION 012500 - EQUALS AND SUBSTITUTIONS

A. <u>Definitions:</u> Definitions in this Article do not change or modify the meaning of other terms used in the Contract Documents.

1 Equals or Substitutions General: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract.

2 Equal: Any deviation from the specification which is defined as follows: A replacement for the specified material, device, procedure, equipment, etc., which is recognized and accepted as substantially equal to the first listed manufacturer or first listed procedure specified, after review, by the Engineer and may be rejected

or approved at the sole discretion of the owner. All equals must be substantially equivalent to the first manufacturer or first procedure listed in the Specifications with reference to all of the following areas: the substance and function considering quality, workmanship, economy of operation, durability and suitability for purposes intended; size, rating and cost. The equal does not constitute a modification in the scope of Work, the Schedule or Architect/Engineer's design intent of the specified material, device, procedure, equipment, etc.

3 Substitution: Any deviation from the specified requirements, which is defined as follows: A replacement for the specified material, device, procedure, equipment, etc., which is not recognized or accepted as equal to the first manufacturer or procedure listed in the Specification after review by the Engineer and may be rejected or approved by the Owner. The Substitution is not equal to the specified requirement in comparison to the first manufacture or first procedure listed in the Specifications in one or more of the following areas: the substance and function considering quality, workmanship, economy of operation, durability and suitability for purposes intended; size; cost and rating. The Substitution constitutes a modification in the scope of Work, the Schedule or the Architect/Engineer's design intent of the specified material, device, procedure, equipment, etc.

a. The following are not considered to be requests for Equals or Substitutions:

1) Revisions to the Contract Documents requested by the Owner or Engineer.

2) Specified options of products and construction methods included in the Contract Documents.

3) The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities having jurisdiction.

B. Submittals:

1. Equals and Substitution Request Submittals: The Owner will consider requests for equals or substitutions if received within time period specified herein.

a. The Contractor is required to prepare and submit 3 copies of the required data for the first manufacturer listed or procedure listed in the specifications section with reference to all of the following areas: the substance and function considering quality, workmanship, economy of operation, durability and suitability for purposes intended including the size, rating and cost. All submissions must include all the required data for the first listed manufacturer or procedure as specified, as well as the required data for the proposed Equal or Substitution. This will enable the Owner and Engineer to determine that the proposed Equal or Substitution is or is not substantially equal to the first listed manufacturer or procedure.

2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.

3. Provide complete documentation showing compliance with the requirements for equals or substitutions, and the following information, as appropriate on a "Substitution Request" form as required by the Owner:

a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors, which will be necessary to accommodate the proposed Equal or Substitution.

b. A detailed comparison chart of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, and visual effect.

c. Product Data, including Shop Drawings and descriptions of products and fabrication and installation procedures.

d. Samples, where applicable or requested.

e. A statement indicating the effect on the Contractor's Construction Schedule or CPM Schedule compared to the schedule without approval of the Equal or Substitution. Indicate the effect on overall Contract Time.

f. Cost information, broken down, including a proposal of the net change, if any in the Contract Sum.

g. The Contractor's certification that the proposed Equal or Substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.

h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the Equal or Substitution to perform adequately.

4. Engineer's Action: If necessary, the Engineer will request additional information or documentation for evaluation within one week of receipt of the original request for equal or substitution request. The Engineer will notify the Construction Administrator who will notify the Owner of recommended acceptance or rejection of the proposed equal or substitution, within two (2) weeks of receipt of the request, or one (1) week of receipt of additional information or documentation, whichever is later. The Construction Administrator will give final acceptance or rejection by the Owner not less than one (1) week after notification.

a. Any request deemed an "Equal" and accepted by the Construction Administrator, Engineer, Owner, and Owner will result in written notification to the Contractor and will <u>not</u> be in the form of a change order for an "Equal".

b. Any request deemed a "Substitution" and rejected or approved by Construction Administrator, Engineer, and Owner may result in written notification to the Contractor and <u>may</u> be in the form of a change order if the "Substitution" is approved.

C. <u>Equal or Substitutions:</u>

1. Conditions: The Engineer will consider the Contractor's request for Equal or Substitution of a product or method of construction when one or more of the following conditions are satisfied, as determined by the Engineer. If the following conditions are not satisfied, the Engineer will return the requests to the

Construction Administrator without action except to record noncompliance with these requirements.

a. The proposed request does not require extensive revisions to the Contract Documents.

b. The proposed request is in accordance with the general intent of the Contract Documents.

c. The proposed request is timely, fully documented, and/or properly submitted.

d. The proposed request can be provided within the Contract Time. However, the Engineer will not consider the proposed request if it is a result of the Contractor's failure to pursue the Work promptly or coordinate activities properly.

e. The proposed request will offer the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. However, if the proposed request requires the Owner to incur additional responsibilities, including but not limited to, additional compensation to the Engineer for redesign and evaluation services, increased cost of other construction by the Owner or similar considerations, then the Owner will have just cause to reject the request for Equal or Substitution.

f. The proposed request can receive the necessary approvals, in a timely manner, required by governing authorities having jurisdiction.

g. The proposed request can be provided in a manner that is compatible with the Work as certified by the Contractor.

h. The proposed request can be coordinated with the Work as certified by the Contractor.

i. The proposed request can uphold the warranties required by the Contract Documents as certified by the Contractor.

2. The Contractor's submission and the Engineer's review of Submittals, including but not limited to, Samples, Manufacturer's Data, Shop Drawings, or other such items, which are not clearly identified as a request for an Equal or Substitution, will not be considered or accepted as a valid request for an Equal or Substitution, nor does it constitute an approval.

SECTION 012600 - MODIFICATION PROCEDURES

A. Summary: This Section specifies administrative and procedural requirements for handling and processing contract modifications.

B. Requests for Information:

1. In the event that the contractor or subcontractor, at any tier, determines that some portion of the drawings, specifications, or other contract documents requires clarification or interpretation by the Engineer, the contractor shall submit a

"Request for Information" in writing to the Engineer. "Requests for Information" may only be submitted by the contractor and shall only be submitted on "Request for Information" forms as required by the owner. In the "Request for Information", the contractor shall clearly and concisely set forth the issue for which clarification or interpretation is sought and why a response is needed from the Engineer.

a. In the "Request for Information", the contractor shall set forth an interpretation or understanding of the requirement along with reasons why such an understanding was reached.

b. The Engineer will review all "Requests for Information" to determine whether they are "Requests for Information" within the meaning of this term. If it is determined that the document is not a "Request for Information", it will be returned to the contractor, un reviewed as to content, for resubmittal on the proper form and in the proper manner.

c. "Requests for Information Response" shall be issued within seven (7) Working Calendar Days of receipt of the request from the contractor unless the owner determines that a longer time is necessary to provide an adequate response. If a longer time is determined necessary by the owner, the owner will, within seven (7) Working Calendar Days of receipt of the request, notify the contractor of the anticipated response time. If the contractor submits a "Request for Information" on an activity with seven (7) Working Calendar Days or less of float on the current project schedule, the contractor shall not be entitled to any time extension due to the time it takes the Engineer to respond to the request provided that the Engineer responds within the seven (7) Working Calendar Days set forth above.

d. "Requests for Information Response" from Engineer will not change any requirement of the contract documents. In the event the contractor believes that the "Requests for Information Response" will cause a change to the requirements of the contract document, the contractor shall immediately give written notice to the Engineer stating that the contractor believes the "Requests for Information Response" will result in "Change Order" and the Contractor intends to submit a "Change Order Proposal" request. Failure to give such written notice immediately shall waive the contractor's right to seek additional time or cost under the requirement these Requirements.

C. Minor Changes in the Work:

1. The Engineer will issue supplemental instruction authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract time, on the "Supplemental Instructions" form as required by the Owner.

D. Proposal Request:

1. Engineer/Owner-Initiated Requests For Proposals: The Engineer or Owner will issue a detailed description of proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications. Such requests shall be on a "Proposal Request" form as required by the owner.

2. "Proposal Request" is issued for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
3. Within Fourteen (14) Working Calendar Days of receipt of a "Proposal Request", submit an "Change Order Proposal" with the required information necessary to execute the change to the Engineer for the Engineer's/Owner's review.
4. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
   a. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
   b. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.
   c. The Owner is tax exempt. All Contractor and Subcontractor services provided under your contract with the State of Rhode Island may not be exempt from taxes. The Department of Revenue Services can guide you as to which services are exempt and which are not. Please contact the State of Rhode Island, Department of Revenue Services for further information.
   d. Dollar values shown on the Schedule of Values shall not be the governing (or deciding) final amounts for change orders involving either additional charges or deletions.

E. Change Order Proposal:

1. When either a "Request for Information" from the Contractor or a "Proposal Request" from the Engineer or Owner results in conditions that may require modifications to the Contract, the Contractor may propose changes by submitting a request for a "Change Order Proposal" to the Engineer on forms as required by the Owner. These forms shall also include "Change Order Proposal Worksheets" as required by the Owner.
   a. Include statements outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
   b. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities as directed by Article 7 "Changes in the Work" of the General Conditions of the Contract for Construction.
   c. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.
   d. Comply with requirements in Section "Equals and Substitutions" if the proposed change requires an equal or substitution of one product or system for a product or system specified.
2. The State of Rhode Island construction contract has the following tax exemptions:
   a. Purchasing of materials which will be physically incorporated and become a

permanent part of the project.

b. Tools, supplies and equipment used in fulfilling the construction contract are not exempt.

c. Services that are resold by the contractor are exempt, i.e. if a General Contractor hires a plumber, carpenter or electrician, a resale certificate may be issued to the subcontractor because these services are considered to be integral and inseparable component parts of the building contract

3. "Change Order Request" Forms: Use "Change Order Proposal" and "Change Order Proposal Worksheets" forms as required by Owner.

4. "Change Order Proposal" cannot be submitted by the Contractor without either prior submission of a "Request for Information" from the Contractor or as a response to a "Proposal Request" submitted by the Engineer or Owner.

5. Any "Change Order Request" submitted without a prior submittal of a "Request for Information" or as a response to a "Proposal Request" will be immediately rejected and returned to the Contractor.

F. Construction Change Directive:

1. "Construction Change Directive": When the Owner and the Contractor disagree on the terms of a "Change Order Proposal" resulting from either a "Request for Information" or "Proposal Request", then the Engineer may issue a "Construction Change Directive" on a "Construction Change Directive" as authorized by the Owner on the form required by the Owner. The "Construction Change Directive" instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a "Change Order".

a. The "Construction Change Directive" contains a complete description of the change in the Work. It also designates the method to be followed to determine change in the Contract Sum or Contract Time.

2. Documentation: The Contractor shall maintain detailed records on a time and material basis of work required by the "Construction Change Directive".

a. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

b. The final value shall be negotiated based on the supporting data to determine the value of the work.

G. Change Order Procedures:

1. Upon the Owner's approval of a Contractor's "Change Order Proposal", the Contractor will issue a "Change Order" for signatures of the Engineer, Owner and the Contractor on "Change Order" form as required by the Owner.

SECTION 012700 – UNIT PRICES

A. SUMMARY

1. Related documents: Provisions established in General Conditions of the Contract Division 1 – General Requirements, and the drawings are collectively applicable to this section.
2. Section Includes: Unit Prices

B. GENERAL REQUIREMENTS

1. Perform Work required by Unit Prices in accordance with Contract Documents.
2. Unit Prices cover portions of work added to or deducted from quantities indicated by contract documents.
3. Unit Prices are for work in place, except where indicated otherwise.
4. Acceptance or rejection of Unit Prices, partially or completely, will be declared at time of Contract award.
5. Unit prices for additions or deletions include:
   a. Products.
   b. Delivery to site.
   c. Supervision and labor.
   d. Installation, including associated accessories.
   e. Insurance.
   f. Applicable taxes.
   g. Overhead and profit.
   h. Handling, including receiving, unloading, uncrating, storage and distribution.
   i. Protection from damage and from elements.
   j. Submittal and processing of product data, shop drawings, samples and other required submittals.
   k. Other expenses required to complete installation.

C. SCHEDULE OF UNIT PRICES

1. Contractor's Unit Price Note: The following Unit Prices are intended to provide the Owner with predetermined prices should changes to the Base Bid Contract be required. The Owner reserves the right to include any Unit Price Item for adding or deleting work. The contractor agrees to modify his Base Bid by the shown amount.
   a. Add to the Base Bid, the cost to complete the work associated with the relocation of existing sprinkler heads.
      1. ALLOW: $_____/relocation and replacement.
      2. ALLOW: $_____/replacement.
      3. Quantity included in base bid for relocation and replacement _____.
      4. Quantity included in base bid for replacement _____.

b. Add to the Base Bid, the cost to touch-up/repair room finishes.

1. ALLOW: $_____/square ft. of surface area

2. Quantity included in base bid _____ square ft. of surface area

SECTION 012976 - APPLICATIONS FOR PAYMENT

A. Schedule of Values: Submit the "Schedule of Values" to the Engineer at the earliest possible date but no later than (14) fourteen Calendar Days after the Contract Start Date.

1. Identification: Project identification on the Schedule of Values shall include, but not be limited to, the following:
   a. Owner
   b. Project Number
   c. Project Name
   d. Project Location
   e. Contractor's name and address.
4. Arrange the "Schedule of Values" in tabular format as required by the Owner, containing separate columns including, but not limited to, the following Items:
   a. Item Number.
   b. Description of Work with Related Specification Section or Division Number.
   c. Scheduled Values broken down by description number, type material, units of each material.
   d. Name of subcontractor.
   e. Name of manufacturer or fabricator.
   f. Name of supplier.
   g. Retainage.
   h. Contract sum in sufficient detail.
5. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
6. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
7. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
8. General Conditions: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and

profit margin for each item.

a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.

B. Applications for Payment - General: Each Application for Payment shall be consistent with previous applications and payments as certified by the Engineer and Construction Administrator and paid for by the Owner.

1. The initial "Application for Payment", the "Application for Payment" at time of "Substantial Completion", and the final "Application for Payment", involve additional requirements.
2. Payment-Application Terms: The Owner will process monthly progress payments. The Contractor may submit applications for payment on a monthly basis.
3. Payment-Application Forms: Use the "Application for Payment" form as required by the Owner. Present the required information on electronic media printout or approved Owner Form, multiple pages should be used if required.
4. For each item, provide a column including but not limited to the following items:
   a. Item Number.
   b. Description of Work and Related Specification Section or Division.
   c. Scheduled Value, break down by units of material and units of labor.
   d. Work completed from previous application.
   e. Work completed this period.
   f. Materials presently stored.
   g. Total completed and stored to date of application.
   h. Percentage of Completion.
   i. Balance to Finish.
   j. Retainage
5. Include a separate line item for waste recycling. Reference Section 017422.
6. Application Preparation: Complete every entry on the Application form. At the time of Final Payment only, include an executed Application form by a person authorized to sign legal documents on behalf of the Contractor. The Construction Administrator will return incomplete Applications without action.
   a. Entries shall match data on the "Schedule of Values".
   b. Include amounts of Change Orders issued prior to the last day of the construction period covered by the application.
7. Transmittal: Except for final payment, submit to the Engineer by a method ensuring receipt within forty-eight (48) hours. One (1) complete, signed and notarized original of each Application for Payment, including lien waivers and similar attachments when required, along with three (3) copies. For Final

Payment, four (4) complete, signed and notarized copies shall be submitted.

a. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Engineer.

8. Applications for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment and all subsequent Application for Payments including, but not limited to, the following items:

a. List of subcontractors and suppliers' name, FEIN/Social Security numbers, and Rhode Island Tax Registration Numbers.

b. List of principal suppliers and fabricators.

c. Schedule of Values.

d. Contractor's Construction Schedule (preliminary if not final).

e. Schedule of principal products.

f. Submittal Schedule (preliminary if not final).

g. List of Contractor's staff assignments.

h. List of Contractor's principal consultants.

i. Copies of all applicable permits.

j. Copies of authorizations and licenses from governing authorities for performance of the Work.

k. Proof that as-built documents are updated as required by Section 017700 "Contract Closeout".

C. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment form using the form as required by the Owner. Present the required information on electronic media printout.

1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

2. Administrative actions and submittals that shall precede or coincide with this application include, but are not limited to, the following:

a. Occupancy permits and similar approvals.

b. Warranties (guarantees) and maintenance agreements.

c. Maintenance instructions.

d. Startup performance reports.

e. Changeover information related to Owner's occupancy, use, operation, and maintenance.

f. Final cleaning.

g. Application for reduction of retainage and consent of surety.

h. Advice on shifting insurance coverage.

i. List of incomplete Work, recognized as exceptions to Engineer's Certificate of Substantial Completion.

D. Final Payment Application**:** Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include, but are not limited, to the following:

1. Completion of Project Closeout requirements.
2. Completion of list of items remaining to be completed as indicated on the attachment to the Certificate of Substantial Completion.
3. Ensure that unsettled claims will be settled.
4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
5. Transmittal of required Project construction records to the Owner (including as-built documents Reference Section 017700 "Contract Closeout".)
6. Proof that taxes, fees, and similar obligations were paid.
7. Removal of temporary facilities and services.
8. Removal of surplus materials, rubbish, and similar elements.
9. Change of door locks to Owner's access.
10. The requirements of the General Conditions and Supplementary Conditions for Final Acceptance, Final Completion, Final Inspection, and Final Payment.
11. Asbestos, Lead or other hazardous material manifests.
12. Completion of "Building Contractor Reporting Form" as supplied by Department of Administration, for all Contractors, Subcontractors, Vendors, Suppliers, etc. who work on the Contract. The form includes the following information:
    a. Contractor/Subcontractor name.
    a. FEIN/Social Security Numbers
    b. Rhode Island Tax Registration Numbers
    c. Type of work
    d. Name of business and address
    e. Remittance address.

SECTION 013100 - COORDINATION

A. Construction Administrator:

1. The Construction Administrator is identified in Division 1 "Construction Administrator".
2. Construction Mobilization:
    a. Cooperate with the Construction Administrator in the allocation of mobilization areas of the site, for field offices and sheds, for Owner facility access, traffic,

and parking facilities.

b. During Construction, coordinate use of site and facilities through the Construction Administrator.

c. Comply with Construction Administrators procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

d. Comply with instructions of the Construction Administrator for use of temporary utilities and construction facilities.

B. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
3. Make provisions to accommodate items scheduled for later installation.

C. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.

1. Prepare similar memoranda for the Construction Administrator, Owner and separate contractors where coordination of their work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of schedules.
2. Installation and removal of temporary facilities.
3. Delivery and processing of submittals.
4. Progress meetings.
5. Project closeout activities.

E. General Coordination Provisions:

1. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed and coordinate such inspections with the Construction Administrator and authorities having jurisdictions. If unsatisfactory conditions exist notify the Construction Administrator immediately. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

2. The Contractor shall coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.
   a. The Construction Administrator will meet with the Contractor on all major items of coordination.

SECTION 013119 - PROJECT MEETINGS

A. Pre-construction Conference:

1. The Contractor will attend a Pre-construction Conference before starting construction, as scheduled by the Construction Administrator convenient to the Owner, the Construction Administrator, Engineer, and Contractor. This meeting will take place within fourteen (14) Calendar Days after the written Notice to Proceed and before the Contract Start Date. Hold the conference at the Project Site or another convenient location as directed by the Construction Administrator. The Construction Administrator shall conduct the Pre- construction Conference to review the Contractor and Subcontractor responsibilities and personnel assignments.
2. Agenda: Discuss items of significance that could affect progress, including the following:
   a. Tentative construction schedule.
   b. Critical work sequencing.
   c. Progress meeting schedule.
   d. Designation of responsible personnel.
   e. Procedures for processing field decisions and Change Orders.
   f. Procedures for processing Applications for Payment.
   g. Distribution of Contract Documents.
   h. Submittal of Shop Drawings, Product Data, and Samples.
   i. Preparation of record documents.
   j. Use of the premises.
   k. Parking availability.
   l. Office, work, and storage areas.
   m. Equipment deliveries and priorities.
   n. Safety procedures.
   o. First aid.
   p. Security.
   q. Housekeeping.
   r. Working hours.

s. Coordination with Audio-Visual and Telecommunications.

B. Progress Meetings:

1. The Construction Administrator will conduct progress meetings, bi-weekly, at the Project Site or at regular intervals as agreed upon at the Pre-construction Conference. The Construction Administrator will notify the Owner, the Engineer, and the Contractor of the scheduled Progress Meeting dates. Coordinate dates of Progress Meetings with preparation of Application for Payment requests.
2. Agenda: Progress Meetings shall review and correct or approve minutes of the previous Progress Meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.
   a. Construction Schedule: Review progress since the last Progress Meeting. Determine where each activity is in relation to the required Contractor's "Construction Schedule" and whether each activity is on time or ahead or behind Schedule. Determine how Work that is behind Schedule will be expedited; secure commitments from parties involved to do so. Discuss whether Schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
   b. Review the present and future needs of each entity present
3. Reporting: The Construction Administrator will distribute minutes of the meeting to each party present, promptly and before the next scheduled meeting, and to parties who should have been present.
4. A schedule of regular Project Meetings will be established at the Pre-construction Conference.

SECTION 013216 - CONSTRUCTION SCHEDULE

A. Definitions:

1. Construction Schedule: A method of planning and scheduling a construction project utilizing a horizontal bar chart with a separate bar for each major portion of the Work or operation to make the schedule an effective tool for planning and monitoring the progress of the work.

B. Content:

1. Show complete sequence of construction by activity, with dates beginning and completion of each element of construction.
2. Identify each item by specification section number.
3. Identify work of separate phases other and other logically grouped activities.
4. Show accumulated percentages of completion of each item, and total percentage of Work completed, as of the first day of each month.
5. Provide separate schedule of submittal dates for shop drawings, product data, and samples, Owner/Owner furnished products and any products identified as under

Allowances, and dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.

6. Indicate delivery dates for Owner/Owner furnished products and any products identified as under Allowances.
7. Coordinate content with Schedule of Values specified in Section 012976 "Application for Payment".
8. Indicate critical path with original baseline indicated.

C. Submittals And Revisions To Schedules:

1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
3. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.
4. Submit revised Construction Schedules each Application for Payment.
5. Submit four (4) copies of the Construction Schedule to the Construction Administrator.

D. Distribution:

1. Distribute copies of the Construction Schedules to Construction Administrator, Engineer, Owner, Subcontractors, suppliers, and other concerned parties.
2. Instruct recipients to promptly report, in writing, problem anticipated by projections indicated in schedules.

SECTION 013300 - SUBMITTALS

A. SUMMARY:

1. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including but not limited to the following:
   a. Submittal Procedures.
   b. Submittal schedule.
   c. Daily Construction reports.
   d. Shop Drawings.
   e. Shop Drawings for Fire Protection/Detection Systems.
   f. Product Data.
   g. Samples.
   h. Quality assurance submittals.
   i. Engineer's Action.

j. Submittals shall comply with all requirements in Division 1 Section 012500 "Equals and Substitutions".

k. Submittals shall comply with all requirements in Division 1 Section 017830 "Warrantees and Guarantees".

l. Submittals shall comply with all requirements in Division 1 Section 013100 "Coordination".

m. Submittals shall comply with all requirements in Division 1 Section 017823 "Operation and Maintenance Data".

B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:

1. Permits.
2. Applications for Payment.
3. Performance and payment bonds.
4. Contractor's construction schedule.
5. Insurance certificates.
6. List of subcontractors.
7. Subcontractors / Suppliers FEIN #'s and Rhode Island tax registration #.

C. DEFINITIONS:

1. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
2. Preparation of Coordination Drawings is specified in Division 1 Section "Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
3. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the Work will be judged.
4. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not Samples.

D. SUBMITTAL PROCEDURES:

1. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
   a. The Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until all related submittals are received.

b. The Engineer reserves the right to reject incomplete submitted packages.

3. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.

a. Allow (2) two weeks for initial review. Allow additional time if the Engineer must delay processing to permit coordination with subsequent submittals.

b. If an intermediate submittal is necessary, process the same as the initial submittal.

c. Allow (2) two weeks for reprocessing each submittal.

d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Engineer sufficiently in advance of the Work to permit processing.

E. Submittal Preparation: Place a permanent label, title block or 8-1/2 inches x 11 inches cover page approved by the Engineer, on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

1. The minimum number of copies required for each submittal shall be at a minimum 7 copies or as determined otherwise at the pre-construction conference or by the Construction Administrator.

2. Provide a space approximately 4 inches by 5 inches on the label, beside the title block or on the cover page on Shop Drawings to record the Contractor's review and approval markings and the action taken.

3. Include the following information on the label for processing and recording action taken.

a. Project Name and State of Rhode Island Project Number.

b. Date.

c. Name and address of the Contractor.

d. Name and address of the subcontractor.

e. Name and address of the supplier.

f. Name of the manufacturer.

g. Number and title of appropriate Specification Section.

h. Drawing number and detail references, as appropriate.

i. Indicate either initial or resubmittal.

j. Indicate deviations from Contract Documents.

k. Indicate if "equal" or "substitution".

F. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Engineer using a transmittal form. Copy the Construction Administrator on the transmittal. The Engineer will return all submittals to the Contractor after action is taken with a complete copy of the submittal package. The Engineer will not accept submittals received from sources other than the Contractor.

1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

G. SUBMITTAL SCHEDULE:

1. After development and review by the Owner and Engineer acceptance of the Contractor's Construction or CPM schedule prepare a complete schedule of submittals. Submit the schedule to the Construction Administrator within 30 days of Contract Award.
2. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the contractor's Construction or CPM Schedule.
3. Prepare the schedule in chronological order. Provide the following information:
   a. Schedule date for the initial submittal.
   b. Related section number.
   c. Submittal category (Shop Drawings, Product Data, or Samples).
   d. Name of Subcontractor.
   e. Description of the part of Work covered.
   f. Scheduled date for resubmittal.
   g. Scheduled date for the Engineer's final release of approval.

H. Distribution: Following response to the initial submittal, print and distribute copies to the Construction Administrator, Engineer, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.

1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

I. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

J. SHOP DRAWINGS:

1. Shop drawings shall be submitted electronically as much as practical.
2. Submit newly prepared information drawn accurately to scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not a Shop Drawing.
3. Shop Drawings include fabrication and installation Drawings, setting diagrams, schedules, patterns, templates and similar Drawings. Include the following

information:

a. Dimensions.

b. Identification of products and materials included by sheet and detail number.

c. Compliance with specified standards.

d. Notation of coordination requirements.

e. Notation of dimensions established by field measurement.

f. Sheet Size: Except for templates, patterns and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 36 by 48 inches.

g. Submit one (1) reproducible media and seven (7) prints as directed by the Construction Administrator. The Contractor's submittal shall identify the specification section and/or drawing number applicable to the submittal.

h. Details shall be large scale and/or full size.

4. The Contractor shall review the Shop Drawings, stamp with this approval, and submit them with reasonable promptness and in orderly sequence so as to cause no delay in his Work or in the Work of any subcontractor. Shop Drawings shall be properly identified as specified for item, material, workmanship, and project number. At the submission, the Contractor shall inform the Engineer, in writing of any deviation in the shop drawings from the requirements of the Contract Documents.

5. The Engineer will review and comment on shop drawings with reasonable promptness so as to cause no delay, but only for conformance with the design concept of the project and with the information given in the Contract Documents. Shop Drawings received by the Engineer that indicate insufficient study of drawings and specifications, illegible portions or gross errors, will be rejected outright. Such rejections shall not constitute an acceptable reason for granting the Contractor additional time to perform the work.

6. The Contractor shall make any corrections required by the Engineer and shall resubmit the required number of corrected copies of shop drawings until fully reviewed.

7. Upon final review submit four (4) additional prints, same as submitted, to the Construction Administrator for his use.

8. The Engineer's review and comments on shop drawings shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents.

9. Only final reviewed shop drawings are to be used on the project site.

10. The Work installed shall be reviewed in accordance with the shop drawings and the drawings and specifications. Final Review of the shop drawings by the Engineer shall constitute acceptance by the Owner and the Engineer of a variation or departure that is clearly identified. Final reviewed shop drawings shall not replace or be used as a vehicle to issue or incorporate change orders.

K. SHOP DRAWING FOR FIRE PROTECTION/DETECTION SYSTEMS:

1. Shop drawings for Fire Protection /Detection systems shall comply with all of the requirements in the section above "Shop Drawings". In addition Sprinkler system shop drawings and hydraulic calculations must be stamped by a professional engineer licensed in the state of Rhode Island. Two (2) sets of information [as noted in Division 1 "Submittals" Section 013300] shall be submitted to the State's Insurance Carrier (SIC), and one (1) set shall be submitted to the State Fire Marshals (SFM) office.

L. PRODUCT DATA:

1. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information, schedules, such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams, and performance curves.
2. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
   a. Manufacturer's printed recommendations.
   b. Compliance with trade association standards.
   c. Compliance with recognized testing Owner standards.
   d. Application of testing Owner labels and seals.
   e. Notation of dimensions verified by field measurement.
   f. Notation of coordination requirements.
3. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
4. Preliminary Submittal: Submit a preliminary single copy of Product Data where selection of options is required.
5. Submittals: Submit 7 copies of each required submittal; submit 5 copies where required for maintenance manuals. The Engineer will retain one and will return the other marked with action taken and corrections or modifications required.
   a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
6. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
   a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
   b. Do not permit use of unmarked copies of Product Data in connection with construction.

M. SAMPLES:

1. Store, mount or display Samples on site in a manner to facilitate review of qualities indicated. Prepare Samples to match the Engineer's sample. Include the following:
   a. Specification Section number and reference.
   b. Generic description of the Sample.
   c. Sample source.
   d. Product name or name of the manufacturer.
   e. Compliance with recognized standards.
   f. Availability and delivery time.
2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
   a. Where variation in color, pattern, texture, or other characteristic is inherent in the material or product represented, submit at least (3) three multiple units that show approximate limits of the variations.
   b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
   c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
   d. Samples not incorporated into the Work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
3. Preliminary Submittals: Submit a full set of choices where Samples are submitted for selection of color, pattern, texture, or similar characteristics from a range of standard choices, unless otherwise noted in specification section.
   a. The Engineer will review and return preliminary submittals with the Engineers notation, indicating selection and other action.
4. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit (3) sets. The Engineer will return one set marked with the action taken.
5. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
   a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.

b. Sample sets may be used to obtain final acceptance of the construction associated with each set.

6. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Show distribution on transmittal forms.

a. Field samples are full-size examples erected on-site to illustrate finishes, coatings, or finish materials and to establish the Project standard.

1) Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

N. QUALITY ASSURANCE SUBMITTALS:

1. Submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.

2. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.

a. Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.

3. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division 1 Section "Quality Control."

O. ENGINEER'S ACTION:

1. Except for submittals for the record or information, where action and return is required, the Engineer will review each submittal, mark to indicate action taken, and return promptly.

a. Compliance with specified characteristics is the Contractor's responsibility.

2. Action Stamp: The Engineer will stamp each submittal with a uniform, action stamp. The Engineer will mark the stamp appropriately to indicate the action taken, as follows:

a. Final Unrestricted Release: When the Engineer marks a submittal "No Exceptions Taken", the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.

b. Final-But-Restricted Release: When the Engineer marks a submittal "Make Corrections Noted" and / or “Provide Corrected Copies”, the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Submit corrected copies for record. Final payment depends on that compliance.

c. Returned for Resubmittal: When the Engineer marks a submittal "Rejected”,

"Revise and Resubmit", or "Submit Specified Items", do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.

1) Do not use, or allow others to use, submittals "Rejected", "Revise and Resubmit", or "Submit Specified Items" at the Project Site or elsewhere where Work is in progress.
2) Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Engineer will return the submittal marked "No Action."

d. Unsolicited Submittals: The Engineer will discard unsolicited submittals without action.

SECTION 013400 – ENERGY CONSERVATION REBATES

A. The Contractor shall make the Owner aware of all "upstream" energy rebates and apply them as a credit to the Owner.
B. The Contractor shall provide the owner all necessary information and documentation necessary for energy rebate applications.

SECTION 014100 - REGULATORY REQUIREMENTS

A. Permits, Licenses, and Certificates: Contractor shall be responsible for obtaining all local and state municipal documentation, including permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, as required for contractor to obtain Certificate of Occupancy.

B. Municipal Inspections: Contractor shall be responsible for obtaining all required municipal inspections from whatever municipal departments have jurisdiction over project.

SECTION 014220 - REFERENCE STANDARDS & DEFINITIONS

A. For products specified by association or trade standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. References to standard specifications and codes refer to the editions current at the bid due date. An exception is, buildings exceeding the threshold limit must be in substantial compliance with the requirements of the effective code at the time of receipt of completed application to the Office of State Building Inspector (OSBI). References include their addenda and errata, if any, and shall be considered a part of these specifications as if they were printed herein in full.

C. The manufacturers' standard warranties or guarantees shall apply when their products

are used on this project.

D. Flame Spread Ratings - All materials that are required or obligated to meet specified standards shall be submitted to the owner for their records as part of the shop drawing submittal process for their construction records.

SECTION 014500 - QUALITY CONTROL

A. Contractor Responsibilities: All tests required by the individual specification sections are required to be scheduled and notification given to the Construction Administrator forty- eight (48) hours in advance to the test/inspection as applicable.

1. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Sum.
2. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.
   a. Such services include Special Inspections as required by the latest adoption of the "Rhode Island State building Code".
   b. Where the Owner has engaged a testing agency for testing and inspecting part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner. The Owner will engage the services of a qualified Special Inspector for this project. The Special Inspector, as a representative of the Owner, shall document and confirm compliance with the provisions of the Rhode Island State Building Code for Special Inspections.
   c. Materials and assemblies for this project will be tested and construction operations inspected as the work progresses. Failure to detect any defective work or material shall not in any way prevent later rejection when such defect is discovered nor shall it obligate the State for final acceptance.
   d. The Owner use of testing and inspection services shall in no way relieve the contractor of the responsibility to furnish materials and finished construction in full compliance with the Contract Documents and the Rhode Island State Building Codes.

B. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.

1. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original

construction indicated noncompliance with Contract Document requirements.

2. The Owner will issue a credit change order to cover all costs incurred related to all re-tests / re-inspection due to non-compliance to the contract documents, including but not limited to the Owners costs and the Consultants costs.

C. Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the Owner sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:

1. Provide access to the Work.
2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
3. Take adequate quantities of representative samples of materials that require testing or assist the Owner in taking samples.
4. Provide facilities for storage and curing of test samples.
5. Deliver samples to testing laboratories.
6. Provide an approved design mix proposed for use for material mixes that require control by the testing Owner.
7. Provide security and protection of samples and test equipment at the Project Site.

D. Owner will pay for the services of an independent testing laboratory to perform inspections, tests and other services required by the Specifications except as noted below, for which the Owner will issue a deduct change order to cover the cost associated with these tests:

1. When the Contractor notifies the Construction Administrator and/or Testing Lab less than twenty-four (24) hours before the expected time of testing.
2. When the Contractor requires testing for his own convenience.
3. When the Contractor schedules a test and is not ready for the required test.

E. Reports of tests that are part of the submittal requirements which indicate compliance or non-compliance with the specified standard.

G. Fire Alarm/Acceptance Testing Procedures:

1. The fire alarm testing shall be as the authority having jurisdiction shall dictate as set below:

   a. Protective Signaling Systems:

      All protective signaling systems shall meet with acceptance testing requirements of the applicable standards listed in Section 7-6.1.4, NFPA 101/1997 and NFPA 13/1996.

   b. Prior Test Notification:

      At least 5 working days prior to testing, the Fire Alarm Contractor shall notify (in writing) the following people of the proposed date the acceptance tests are to be performed (Also, see Part 2 of Certificate of Compliance).

      - Department of Administration Team Representative

- General Contractor
- Engineer of Record
- Equipment Supplier Representative
- Sprinkler Contractor

c. Certificates of Compliance:

1) A Fire Alarm System Inspection and Testing Certification and Description form shall be prepared for each system (See NFPA 72/1999 Chapter 7 and Figure 7- 5.2.2).
2) Parts 1 and 3 through 9, shall be completed after the system is installed and the installation of the wiring has been checked. Every alarm device must also be pre-tested to ensure proper operation and correct annunciation at each remote annunciator and control panel. Part 1 of the form (Certification of System Installation) shall be signed by the fire alarm contractor. The signed and completed preliminary copies of the Certification form shall be forwarded to all parties along with the Prior Test Notification.
3) Part 2, of each applicable form, shall be completed after the operational tests have been completed.
4) After the completion of the operational acceptance tests and sign-off of test witness (with stipulations noted), final copies of the Certificates shall be forwarded to the Department of Administration Representatives.

d. Tests:

1) All tests shall be conducted in accordance with the Manufacturers Testing Recommendations.
2) All testing equipment, apparatus (i.e. sound level decibel meter, 2-way radio communication, test devices, ladders, tools, lighting, etc.) and personnel shall be supplied by the Fire Alarm Contractor and Sprinkler Contractor.

e. System Documentation:

Every system shall include the following documentation, which shall be delivered to the Department of Administration Representatives upon final acceptance of the system. An owner's manual or manufacturer's installation instructions covering all system equipment, including the following:

1. A detailed narrative description of the system inputs, evacuation signaling, ancillary functions, annunciation, intended sequence of operations, expansion capability, application considerations, and limitations.
2. Operators instructions for basic systems operations including alarm acknowledgment, system reset, interpreting system output (LED's CRT display, and printout), operation of manual evacuation signaling and ancillary function controls, changing printer paper, etc.
3. A detailed description of routine maintenance and testing as required and

recommended and as would be provided under a maintenance contract, including testing and maintenance instructions for each type of device installed. This information should include:

a. A listing of individual system components that require periodic testing and maintenance.

b. Step by step instructions detailing the requisite testing and maintenance procedures and the intervals at which those procedures should be performed.

c. A schedule that correlates the testing and maintenance procedures required by paragraph (2) above and with the listing required by paragraph (1) above.

4. Detailed troubleshooting instructions for each type of trouble condition recognized by the system, including opens, grounds, parity errors, "loop failures," etc. These instructions should include a list of all trouble signals, and step by step instructions describing how to isolate those problems and correct them (or call for service as appropriate).

5. A service directory, including a list of names and telephone numbers for those who should be called to service on the system.

f. As-Built Drawings:

The Contractor will produce two sets of as-built drawings and specifications for the fire alarm system, indicating the location (and programmed address, if applicable) of all devices and appliances, the wiring sequences, wiring methods, connection of the components, and sequence of operation of the protective signaling system as installed, shall be given to DPW representatives. This shall be in Accordance with NFPA 72. Refer also to Section 017700 “Contract Closeout”.

H. Submittals:

1. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Construction Administrator. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.

2. Submit additional copies of each written report directly to the governing authority, when the authority so directs.

3. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:

a. Date of issue.

b. Project title and number.

c. Name, address, and telephone number of testing Owner.

d. Dates and locations of samples and tests or inspections.

e. Names of individuals making the inspection or test.

f. Designation of the Work and test method.

g. Identification of product and Specification Section.

h. Complete inspection or test data.

i. Test results and an interpretation of test results.

j. Ambient conditions at the time of sample taking and testing.

k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.

l. Name and signature of laboratory inspector.

m. Recommendations on re-testing.

I. Conflicting Information:

1. The Contract Documents are complimentary. They describe the intent of the final product. The contractor's performance is expected to meet the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated final product.

2. If compliance with two or more standards or instructions is specified and these standards establish different or conflicting requirements for minimum quantities or quality levels, contractor shall comply with the most stringent, more costly, and/or more time consuming requirement. Refer conflicting requirements to Engineer for a decision before proceeding.

3. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

4. The order of information describing the Work is as follows:

   a. Schedules shall override Specifications.

   b. Specifications shall override drawing details.

   c. Drawn details shall override building or wall sections.

   d. Drawn building or wall sections shall override drawing plans or elevation views.

5. Interpretation:

   a. The Construction Manager shall provide the final decisions and coordination for any means and methods conflicts that arise with the Work.

   b. The Engineer shall provide the final interpretation of any conflicting information on the Construction Documents.

J. Copies of Standards:

1. Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable

standards are not bound with the Contract Documents.

2. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.

K. Quality Assurance:

1. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are pre-qualified as complying with the National Voluntary Laboratory Accreditation Program and that specialize in the types of inspections and tests to be performed.

   a. Each independent inspection and testing Owner engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

L. Repair and Protection:

1. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 1 Section 017329 "Cutting and Patching."
2. Protect constructions exposed by or for quality-control service activities, and protect repaired construction.
3. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

SECTION 015035 - CONSTRUCTION EQUIPMENT

A. The Contractor shall furnish tools, apparatus and appliances, hoists and/or cranes and power for same, scaffolding, runways, ladders, temporary supports and bracing and similar work or material necessary to insure convenience and safety in the execution of the Contract except where this is otherwise specified in any Specification Section. All such items shall meet the approval of the Department of Administration but responsibility for design, strength and safety shall remain with the Contractor. All such items shall comply with Federal OSHA regulations and applicable codes, statutes, rules and regulations, including compliance with the requirements of the current edition of the "Manual of Accident Prevention in Construction" published by the A.G.C. and the standards of the State Labor Department.

B. Staging, exterior and interior, required for the execution of this Contract, shall be furnished, erected, relocated if necessary and removed by the General Contractor. Staging shall be maintained in a safe condition without charge to and for the use of all trades as needed.

SECTION 015045 - PROTECTION

A. Protect buildings, equipment, furnishings, grounds and plantings from damage. Any damage shall be repaired or otherwise made good at no expense to the State.

B. Provide protective coverings and barricades to prevent damage. The Contractor shall be held responsible for, and must make good at his own expense, any water or other type of damage due to improper coverings. Protect the public and building personnel from injury.

C. Provide temporary protection for installed products. Control traffic in immediate area to minimize damage.

D. Provide protective coverings for walls, projections, jambs, sills and soffits of openings. Protect finished floors and stairs from traffic, movement of heavy objects and storage. Prohibit traffic and storage on waterproofed and roofed surfaces and on lawn and landscaped areas.

E. Provide temporary partitions and ceilings to separate work areas from Owner-occupied areas to prevent penetration of dust and moisture into Owner-occupied areas and equipment. Erect framing and sheet materials with closed joints and sealed edges at intersections with existing surfaces.

SECTION 015050 - SECURITY

A. Provide security program and facilities to protect work, existing facilities and Owner's operations from unauthorized entry, vandalism and theft. Coordinate with Owner's security program.

B. The Contractor shall be solely responsible for damage, loss or liability due to theft or vandalism.

SECTION 015055 - TRAFFIC WAYS

A. Public roads shall not be blocked by standing trucks, parked cars, material storage, construction operations, or in any other manner.

B. Public roads and existing paved roads, drives and parking areas on Owner's property shall be kept free from scrap or debris due to construction operations and any damage to their surface caused by the Contractor shall be repaired by him at his own expense.

C. If the work of the Contract affects public use of any street, road, highway or thoroughfare, the G.C. shall confer with the police authority having jurisdiction to determine if and how many police are needed for public safety in addition to any barriers and signals that may be needed. The G.C. will be responsible for payment of any needed police services.

SECTION 015113 - TEMPORARY ELECTRICITY AND LIGHTING

A. Connect to existing service, provide branch wiring and distribution boxes located to provide power and lighting by construction-grade extension cords. Owner will pay cost of energy used. Take measures to conserve energy. Provide lighting for construction operations. At the termination of construction, return the facilities to their original condition.

SECTION 015116 - FIRE PROTECTION

A. The Contractor, during construction, shall be responsible for loss or damage by fire to the work of the Contract until completion. Any fire used within the structure for working purposes shall be extinguished when not in use. Bitumen or tar shall be melted on the ground only. No flammable material shall be stored in the structure in excess of amounts allowed by the authorities. No gasoline shall be stored in or close to the building at any time. The Contractor shall assign a responsible employee to be in charge of fire protection measures.

B. If an EPDM or other single-ply roof is included in the work that requires cleaning of mating surfaces of laps with gasoline, limit amount of gasoline on roof to 2 gallons which shall be in U.L. listed containers. Also provide one 30 B:C fire extinguisher within 75 feet of any point on the roof.

SECTION 015123 - TEMPORARY HEATING, COOLING AND VENTILATING AND LIGHTING

A. The General Contractor may use the existing heating system with temporary extensions, radiators or unit heaters, but such use is subject to the Owner's approval. Coordinate use of existing facilities with Owner. Provide additional, temporary extensions and units to satisfy the criteria given in the preceding paragraph. Owner will pay cost of energy used. Take measures to conserve energy. At the termination of construction, return the facilities to their original condition. Before operation of permanent facilities, verify that installation is approved for operation and that filters are in place.

SECTION 015136 - TEMPORARY WATER

A. Water for construction purposes may be taken from the existing service. The Contractor shall provide connections, approved backflow prevention device, meter and pipe to the water main or nearest hydrant, subject to the approval of the Department of Administration. Upon completion of work, the Contractor shall remove the temporary connections and backfill if necessary. If new water service is installed before construction is complete, the new system may be used provided it is returned to the

Owner in as-new condition. The Contractor shall pay for the water used, as metered.

SECTION 015219 - TEMPORARY SANITARY FACILITIES

A. The Contractor shall provide, where directed, chemical toilets with toilet tissue, plus wash basins with water, soap and paper towels. The Contractor shall maintain the facilities in a sanitary condition.

B. If women are employed in the work, provide separate, designated facilities for them of the same kind. Provide an adequate number of each kind of facility for each gender.

C. Designated existing toilets may be used during construction. It is the responsibility of the Contractor to maintain the facilities in a clean and sanitary condition and return them to their original condition after use. No loitering or smoking will be permitted in these areas.

SECTION 015400 - TEMPORARY CONTROLS

A. Temporary Environmental Controls: Contractor is to provide the following controls.

1. Rodent and Pest Control: Before deep foundation work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be free of pests and their residues at materials.
2. Dust Control (construction and demolition).
3. Noise Control.
4. Erosion and Sediment Control.
5. Pollution Control.
6. Traffic Control.

SECTION 015600 - BARRIERS AND ENCLOSURES

A. Provide barriers to prevent public entry into construction areas and to protect existing facilities from damage by construction operations.

B. Provide a fence around construction site; equip with vehicular and pedestrian gates with locks.

C. Provide covered walkways as required by governing authorities for public rights-of-way and for public access to existing buildings.

D. Provide barriers around trees and plants designated to remain. Protect against

vehicular traffic, materials' dumping, chemically injurious materials, puddling or running water.

E. Provide temporary, insulated, weathertight closures at openings to the exterior to provide acceptable working conditions and protection for materials, to allow for temporary heating and to prevent entry of unauthorized persons. Provide doors with self-closing hardware and locks.

F. Barriers and enclosures shall be in conformance with code requirements. Do not block egress from occupied buildings unless necessary to further the work of the Contract. In this case, secure the Department's approval of an alternate egress plan.

SECTION 016600 - PRODUCT STORAGE AND HANDLING REQUIREMENTS

A. Materials and Equipment: Shall be delivered, stored and handled to prevent intrusion of foreign matter and damage by weather or breakage. Packaged materials shall be delivered and stored in original, unbroken packages.

1. Promptly inspect shipments to assure that products comply with requirements, that quantities are correct and products are undamaged.
2. Packages, materials and equipment showing evidence of damage will be rejected and replaced at no additional cost to the Owner.

B. Storage and Protection:

1. Store products in accordance with manufacturers' instructions with seals and labels intact and legible. Store sensitive products in weathertight enclosures; maintain within temperature and humidity range required by manufacturer.
2. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
3. Store loose granular material on solid surfaces in a well-drained area; prevent mixing with foreign matter.
4. Arrange storage to provide access for inspection. Periodically inspect to insure products are undamaged and are maintained under required conditions. Keep log showing date, time and problems, if any.
5. Stone, masonry units and similar materials shall be stored on platforms or dry skids and shall be adequately covered and protected against damage.
6. The Contractor shall prepare, as directed by the Owner, one area or space in the building for storage of State-owned equipment.

SECTION 017329 - CUTTING AND PATCHING

A. Openings and chases may not be shown on the Drawings. It is the responsibility of

the Contractor to examine the Architectural, Electrical, HVAC and Plumbing Drawings and to provide chases, channels or openings where needed.

B. The Contractor shall install sleeves, inserts and hangers furnished by the trades needing same.

C. After installing work into openings, channels and/or chases, the Contractor shall close same. If finishes are to be restored, the new work shall match the original and shall be done by the trade customarily responsible for the particular kind of work.

D. Permission shall be obtained from the Construction Administrator before cutting beams, arches, lintels or other structural members.

E. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.

1. Obtain approval from the Architect/Engineer's of the cutting and patching proposal before cutting and patching the following structural elements:

a. Bearing and retaining walls.

b. Structural concrete.

c. Structural steel.

d. Lintels.

e. Structural decking.

f. Miscellaneous structural metals.

g. Equipment supports.

h. Piping, ductwork, vessels, and equipment.

F. Do cutting and patching to integrate all elements of the work. Provide penetrations of existing surfaces. Provide samples for testing. Seal penetrations through floors, walls, ceilings and roofs, as applicable; restore or preserve fire-rated and smoke-barrier construction. Construction and finishes shall match original work.

G. The Contractor shall verify dimensions for built-in work and/or work adjoining that of other trades before ordering any material or doing any work. Discrepancies shall be submitted to the Construction Administrator before proceeding with the work.

H. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

SECTION 017400 - CLEANING

A. Maintain areas under Contractor's control free of waste materials, debris and rubbish. Maintain in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces and other closed or remote spaces before closing the space.

C. Periodically clean interior areas before start of surface finishing and continue cleaning on an as-needed basis.

D. Control cleaning operations so that dust and other particulates will not adhere to wet or newly-coated surfaces.

E. Remove waste materials, debris and rubbish from site daily and dispose of legally off-site. No scrap/debris shall remain inside the building or anywhere on site upon final acceptance of the project.

SECTION 017410 - RENOVATION / DEMOLITION PROJECT PROCEDURES

A. Products For Patching And Extending Work:

1. New materials: As specified in product sections; match existing Products and Work for patching and extending Work.
2. Type and Quality of Existing Products: Determine by inspecting and testing Products where necessary, referring to existing Work as a standard.

B. Inspection- General:

1. Verify that demolition is complete and areas are ready for installation of new Work.
2. Beginning of restoration Work means acceptance of existing conditions.

C. Project Procedures for Work Involving **Asbestos Containing Material (ACM)**:

1. The Owner is responsible for providing an abatement plan for all ACM that is visible and accessible. This is to be provided through a separate project prior to the start of the renovation project.
2. If the Contractor should encounter any material suspect or known to contain ACM that has not been identified as such, he should immediately notify the Construction Administrator of same. It is the State's responsibility to have the material tested. The Owner will respond within twenty-four (24) hours after receiving the Contractor's written request to the Construction Administrator for testing the suspect material.

D. Preparation:

1. Cut, move, or remove items as are necessary for access to alterations and renovation Work. Replace and restore at completion.
2. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
3. Remove debris and abandoned items from area and from concealed spaces.
4. Prepare surface and remove surface finishes to provide for proper installation of new Work and finishes.
5. Close openings in exterior surfaces to protect existing Work and salvage items

from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.

E. Installation:

1. Coordinate Work of alterations and renovations to expedite completion and if required sequence Work to accommodate Owner occupancy.
2. Remove, cut and patch Work in a manner to minimize damage and to provide restoring Products and finishes to original and or specified condition in accordance with Section 017329 "Cutting and Patching".
3. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with neat transition to adjacent finishes in accordance with Section 017329 "Cutting and Patching".
4. In addition to specified replacement of equipment and fixtures, restore existing plumbing, heating, ventilation, air conditioning, electrical, systems to full operational condition.
5. Recover and refinish Work that exposes mechanical and electrical Work exposed accidentally during the Work.
6. Install Products as specified in individual sections.

F. Transitions:

1. Where new Work abuts or aligns with existing, perform a smooth and even transition. Patch work to match existing adjacent Work in texture and appearance.
2. When finished surfaces are cut so that a smooth transition with new Work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect/Engineer.

I. Adjustments:

1. Where removal of partitions or walls result in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
2. Where a change of plane 1/4 inch in 12 inches or more occurs, request recommendation from Architect / Engineer for providing a smooth transition.
3. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
4. Fit Work at penetrations of surfaces as specified in Section 017329 "Cutting and Patching".

J. Repair of Damaged Surfaces:

1. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing imperfections.
2. Repair substrate prior to patching finish.

K. Finishes:

1. Finish surfaces as specified in individual Product sections.
2. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.

L. Cleaning:

1. In addition cleaning specified in Section 017700 "Project Closeout", clean Owner occupied areas of Work

SECTION 017419 - SALVAGEABLE MATERIALS

A. The Contractor shall notify the Construction Administrator in writing (7) seven working Calendar Days prior to removing all salvageable items from the existing alteration project location and unloading all salvageable items.

SECTION 017420 – TRASH

A. The goal of the Construction Waste Management program is to divert a minimum of 75% of demolition and construction waste (by weight) from landfill disposal by recycling or salvage.

SECTION 017421 - WASTE MANAGEMENT SUBMITTALS

A. The contractor will be required to submit a waste management plan to be followed for the duration of construction activities, calling for the separation of specific construction waste materials from the general construction waste stream, to be processed for recycling. The contractor will also be required to provide a breakdown of the materials that were recycled compared to mixed construction waste, broken down by weight, to be submitted to the engineer at the end of the project.

SECTION 017422 - COLLECTION AND DISPOSAL OF WASTES

A. Implement and maintain a construction waste recycling program for the duration of this project. Work with a waste collection company familiar with the process of jobsite recycling to develop and implement a demolition waste recycling program specific to the needs of the project.

B. Maintain separate facilities for the daily collection and sorting of construction debris for recycling to the maximum extent possible. Jobsite recycling area shall be kept accessible and be maintained in a neat and workman like manner. Sorted materials shall be removed from site to appropriate recycling facilities on a weekly basis or as required to maintain debris from accumulating.

C. Containers must be clearly labeled and construction personnel must be trained in material sorting policy. Containers must be monitored periodically to ensure that waste is not being

mixed with trash or other debris.

1. Sort and handle construction waste for recycling to the extent possible. Remove or arrange for the transport of sorted materials scheduled to be recycled to appropriate off-site facilities equipped for the recycling of specific materials. Provide separate containers and/or compartmentalized dumpsters for the sorting of construction wasted and packaging as follows:

    a. Construction wastes to be sorted for recycling include, but are not limited to:

        1) Concrete masonry units
        2) Aluminum materials
        3) Steel materials
        4) Copper materials
        5) Cardboard materials
        6) Recyclable Plastics
        7) Drywall materials.
        8) Light ballasts and lenses

SECTION 017423 - DISPOSAL OF DEMOLISHED/RECYCLED MATERIALS

A. At regular intervals, remove from the site all debris, rubbish and other materials resulting from construction operations, and legally dispose of off the site. Storage or sale of materials for recycling or demolished materials or to be removed will not be permitted on the site.

B. Burning of removed materials from demolished structures, if applicable, will not be permitted on the site.

C. Collect wastes daily.

D. Refer to Section 017400 “Cleaning” for additional requirements.

E. Comply with NFPA 241 for removal of combustible waste.

F. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly.

G. Dispose of all waste and materials to be recycled in a legal manner.

H. Provide sufficient trash receptacles on each floor of the building.

I. Collect and deposit debris in such collection facilities.

J. Remove all debris from the job site on a regular basis. Do not allow trash to accumulate or remain on site for linger than 48 hours.

K. Dispose of any and all materials containing mercury or PCBs according to all local, state and federal regulations.

SECTION 017424 - SANITATION FACILITIES

A. Provide adequate temporary toilet facilities.

B. Maintain such facilities in a clean, sanitary condition.

SECTION 017500 - STARTING OF SYSTEMS

A. General:

1. Coordinate schedule for start-up of various equipment and systems.
2. Provide written notification the Construction Administrator thirty (30) Calendar Days prior to start-up of each item.
3. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, and control sequence for other conditions that may cause damage.
4. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
5. Verify in wiring and support components are complete and tested.
6. Execute the start-up under supervision of manufacturer's representative, in accordance with manufacturer's instructions.
7. When referenced in individual specification sections, require manufacturer to provide an authorized representative to be present at the site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.
8. Submit a written report in accordance Section 014500 "Quality Control" that the equipment or system has been properly installed and is functioning properly.

B. Demonstration and Instructions:

1. Demonstrate operation and maintenance of Products to Owner and Owner Personnel two (2) weeks prior to substantial completion.
2. Demonstrate Project equipment and instruct in a classroom environment at location designated by the Construction Administrator and instructed by a qualified manufacturer's representative who is knowledgeable about the project.
3. For equipment or systems requiring seasonal operation perform demonstration for season within six (6) months.

4. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner and Owner Personnel in detail to explain all aspects of operation and maintenance.
5. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, and maintenance, and shutdown of each item at agreed upon scheduled time and at equipment or designated location.
6. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during demonstration.

C. Testing Adjusting, and Balancing:

1. The Contractor will employ and pay for the testing services of an independent consultant to verify the testing, adjusting, and balancing.
2. Reports will be submitted by the independent testing consultant to the Construction Administrator indicating observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.
3. The Owner may employ and pay for the services of an independent consultant to verify testing, adjusting, and balancing which was performed by the Contractor.

SECTION 017700 - CONTRACT CLOSEOUT

A. Substantial Completion:

1. Preliminary Procedures: Before requesting inspection for Certification of Substantial Completion, complete the following. List exceptions in the request.
   a. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
      1) Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
      2) If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
   b. Advise the Owner of pending insurance changeover requirements.
   c. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
   d. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

e. Submit record drawings, maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.

f. Deliver tools, spare parts, extra stock, and similar items.

g. Make final changeover of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of changeover in security provisions.

h. Demonstration, thru operation and testing, the functions of all systems and/or equipment to the satisfaction of the Owner for compliance to the contract. Complete testing of systems and instruction of the Owner's operation and maintenance personnel. Discontinue and remove temporary facilities from the site, along with mockups, construction tools, and similar elements.

i. Complete final cleanup requirements, including touchup painting.

j. Touch up and otherwise repair and restore marred, exposed finishes.

2. Inspection Procedures: The Contract shall be ready and prepared when they request a Substantial Completion inspection. If the inspection reveals that the work is not complete, there are extensive punchlist items and as the items listed above are not complete, the Construction Administrator, Engineer, and Owner will determine the inspection has failed.

3. The Contractor is responsible for all costs to re-inspect due to a failed inspection. The Owner will issue a deduct change order to cover all costs for re-inspection.

a. The Engineer will repeat inspection when requested and assured that the Work is substantially complete.

b. Results of the completed inspection will form the basis of requirements for final acceptance.

B. Final Acceptance:

1. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.

a. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.

b. Submit an updated final statement, accounting for final additional changes to the Contract Sum.

c. Submit a certified copy of the Engineer's final inspection list of items to be completed or corrected, endorsed and dated by the Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Engineer.

d. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion or when the Owner took possession of and assumed responsibility for corresponding elements of

the Work.

e. Submit consent of surety to Final Payment.

f. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

2. Reinspection Procedure: The Inspection Group will re-inspect the Work upon receipt of notice from the Construction Administrator that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Owner.

a. Upon completion of reinspection, the Construction Administrator will prepare a certificate of final acceptance. If the Work is incomplete, the Construction Administrator will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.

C. As Built Document Submittals:

1. General: Do not use record documents for construction purposes. Protect Record Documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Engineer's reference during normal working hours. Keep documents current; do not permanently conceal any work until required information has been recorded. **Failure to keep documents current is sufficient cause to withhold progress payments**.

a. The Contractor shall also hire the services of a Surveyor registered in the State of Rhode Island to conduct a final survey to determine the location of exterior underground utility lines and to record the results, and update existing electronic media

b. The record of exterior underground utilities shall be made at the time of installation on Mylar film drawing and AutoCAD (latest version) compatible disks. The drawing shall bear the seal of the Land Surveyor and a statement of accuracy.

2. As-built Drawings: The Contractor shall maintain one clean, complete undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

a. Mark record sets with erasable pencil to distinguish between variations in separate categories of the Work.

b. Mark all new information that is not shown on Contract Drawings.

c. Note related change-order numbers where applicable.

d. Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other

identification on the cover of each set.

e. Upon completion of the work, the Contractor shall submit Record Drawings to the Construction Administrator for the Owner's Records who will pass them on to the Architect or Engineer for transferring the changes to the Record Drawing Mylar Tracings.

f. Submit electronic format data of all Coordination Drawings as required by the owner, at no additional cost.

g. Refer to Section 014500 "Quality Control" for required as built drawings and specifications for fire alarm systems.

3. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with the Construction Administrator, Engineer and the Owner's personnel at the Project Site to determine which Samples are to be transmitted to the Owner for record purposes. Comply with the Owner's instructions regarding delivery to the Owner's Sample storage area.

4. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Construction Administrator for the Owner's records.

5. Maintenance Manuals: Organize operation and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual, heavy-duty, 2-inch , 3-ring, vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder according to section 017823 "Operations & Maintenance Data". Included but not limited to the following types of information:

a. Emergency instructions.

b. Spare parts list.

c. Copies of warranties.

d. Wiring diagrams.

e. Inspection procedures.

f. Shop Drawings and Product Data.

D. Closeout Procedures:

1. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures. Include a detailed review of the following items:

a. Maintenance manuals.

b. Record documents.

c. Spare parts and materials.

d. Identification systems.

e. Control sequences.

f. Hazards.

g. Cleaning.

h. Warranties and bonds.

i. Maintenance agreements and similar continuing commitments.

2. As part of instruction for operating equipment, demonstrate the following procedures:

a. Startup.

b. Shutdown.

c. Emergency operations.

d. Noise and vibration adjustments.

e. Safety procedures.

f. Economy and efficiency adjustments.

g. Effective energy utilization.

E. Final Cleaning:

1. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1 Section 017400 “Cleaning”".

2. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion and Certification of Occupancy.

3. Interior:

a. Remove labels that are not permanent labels.

b. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Remove paint spots; wash and polish glass

c. Clean exposed interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

d. Wash washable surfaces of mechanical, electrical equipment and fixtures and replace filters, clean strainers on mechanical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.

e. Clean and polish finish hardware.

f. Clean and polish tile and other glazed surfaces.

g. Clean floors; wax and buff resilient tile. Clean vinyl or rubber base.

h. Vacuum and/or dust walls, ceilings, lighting fixtures, ceiling diffusers and other wall and ceiling items.

i. Remove defacements, streaks, fingerprints and erection marks.

4. Exterior:

a. Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits.

b. Clean exposed exterior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances.

c. Clean roofs, gutters and downspouts.

d. Remove waste and surplus materials, rubbish and construction equipment and facilities from the site, and deposit it legally elsewhere.

e. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Remove paint spots; wash and polish glass.

5. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

6. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.

a. Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Construction Administrator.

b. Leave building clean and ready for occupancy. If the Contractor fails to clean up, the Owner may do so, with the cost charged to the Contractor. The Owner will issue a credit change order to cover the costs.

SECTION 017823 - OPERATION AND MAINTENANCE DATA

A. The Contractor shall instruct the State's designated personnel in the operation of new equipment and shall provide manuals and if required, provide video tapes of this basic maintenance of the equipment for training purposes. Provide qualified personnel for as long as necessary to instruct the State's personnel.

B. Submit four copies of the manuals in 3-ring, loose-leaf notebooks to the Architect/Engineer for approval. Manuals may consist of plain paper copies of approved shop drawings and catalog cuts. Upon completion and approval, 3 copies will be forwarded to the State and one copy retained by the Architect/Engineer.

C. Manuals shall include:

1. Operating Procedures:

a. Typewritten procedures for each mode of operation of each piece of equipment. Procedures shall indicate the status of each component of a system in each operating mode.

b. Procedures shall include names, symbols, valve tags, circuit numbers, schematic wiring diagrams, locations of thermostats, manual starters, control cabinets and other controls of each system.

D. Emergency shut-down procedures for each piece of equipment or system, both automatic and manual, as appropriate.

1. Maintenance Schedule:

a. Typewritten schedule describing manufacturers schedule of maintenance and maintenance procedures.

2. Catalog Cuts:

a. To illustrate each piece of installed equipment, including options.

b. Include equipment descriptions including physical, electrical and mechanical; performance characteristics; installation or erection diagrams.

c. Include spare parts numbers and names, address and phone number of manufacturer; name, address and phone number of local representative or service department.

d. Typewritten list of all subcontractors on the project, including name, address and phone number of local representative or service department.

3. Manuals shall be indexed with dividers indicating each system or piece of equipment.

SECTION 017830 - WARRANTIES AND GUARANTEES

A. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

B. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction

of warranted construction.

C. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

D. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

E. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.

1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

F. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

G. The Contractor shall guarantee all materials and workmanship for a period of eighteen months from the date of acceptance of the Work. In addition, the Contractor shall furnish the warranties listed below. Submit four copies of each to the Construction Administrator in the supplier's standard form or in the form given below if there is no standard form available.

H. Submit certification that finish materials are fire rated as specified.

I. Bonds shall be by approved Surety Companies, made out to the Commissioner, Department of Administration on companies' standard form.

J. Guarantees, warranties or bonds supplied by Subcontractors, Suppliers or Manufacturers shall reference the project name, number, and location and be certified by the General Contractor to be for the product and installation on the project and must be countersigned by the General Contractor.

K. Submittals:

1. Submit written warranties prior to the date certified for Substantial Completion. If the Engineer's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Engineer.

2. Forms for special warranties are included in this Section. Prepare a written document utilizing the appropriate form, ready for execution by the

Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Submit a draft to the Owner, through the Construction Administrator, for approval prior to final execution.

a. Refer to Divisions 2 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

3. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

a. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.

b. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor.

c. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

END OF DIVISION 1- GENERAL REQUIREMENTS

April 16, 2017

RI Army National Guard
Facilities & Maintenance Office
Attn: Ms. Ann Marie Ethier
705 New London Avenue
Cranston, RI 02920

RE: Asbestos Sampling – Warwick Armory Building #1

Dear Ms. Ethier,

Enclosed are the analytical results, observations, and recommendations associated with the limited asbestos assessment performed by Environmental Consulting & Management Inc. (ECM) of the Rhode Island Army National Guard Warwick Armory Building #1 located at 541 Airport Road, Warwick RI. The limited asbestos assessment was performed on March 27, 2018 by Mr. Colin Hannagan, a Rhode Island licensed asbestos inspector (AAC-0931).

Asbestos samples were only collected of materials as directed by the building owner.

The table found below indicates sampled materials, location of materials, notes about the materials, the quantity of asbestos containing materials, and the respective testing results. All samples were analyzed utilizing Polarized Light Microscopy as suggested by EPA method 600/R-93/116.

WO#18012898 Asbestos Bulk Samples RI-ANG Building #1

Sample #	Material	Location	Asbestos %	Quantity
01A	Ceiling Tile	Room 161	None Detected	-
01B	Ceiling Tile	Kitchen	None Detected	-
01C	Ceiling Tile	152B	None Detected	-
02A	HVAC Duct Insulation, Insulation	Room 161	None Detected	-
	HVAC Duct Insulation, Cover		None Detected	-
02B	HVAC Duct Insulation, Insulation	Room 164	None Detected	-
	HVAC Duct Insulation, Cover		None Detected	-

181 Amaral Street
Riverside, RI 02915
O: 401.438.1360
F: 401.438.1316
www.ecmne.com

Sample #	Material	Location	Asbestos %	Quantity
02C	HVAC Duct Insulation, Insulation	Room 152A	None Detected	-
	HVAC Duct Insulation, Cover		None Detected	-
02D	HVAC Duct Insulation, Insulation	Room 112	None Detected	-
	HVAC Duct Insulation, Cover		None Detected	-
03A	Fiberglass Pipe Insulation	Room 161	None Detected	-
03B	Fiberglass Pipe Insulation	Room 152B	None Detected	-
04A	Mudded Pipe Fitting	Room 161	None Detected	-
04B	Mudded Pipe Fitting	Room 138	None Detected	-
04C	Mudded Pipe Fitting	Room 152B	None Detected	-
04D	Mudded Pipe Fitting	Room 112	None Detected	-
05A	Fiberglass Flex Duct	Room 152	None Detected	-
06A	Gray Duct Sealant	Kitchen	None Detected	-
06B	Gray Duct Sealant	Boiler Room	None Detected	-
07A	White Fiberglass Insulation	Hallway of 166	None Detected	-
08A	Fiberglass Elbow	Room 173	None Detected	-
09A	Fiberglass Line	Room 173	None Detected	-
10A	Boiler Exhaust Insulation Cover	Boiler Room	None Detected	-
11A	Boiler Upper Bracket Insulation	Boiler Room	None Detected	-
11B	Boiler Upper Bracket Insulation	Boiler Room	None Detected	-
13A	Boiler Gasket	Boiler Room	None Detected	-
14A	AHU Vibration Cloth	Boiler Room	None Detected	-
15A	AHU Caulk Gray	Roof Unit RTU-2	None Detected	-
16A	Vibration Cloth	Roof Unit RTU-2 Duct	None Detected	-
17A	Duct Insulation, Insulation	Roof Unit RTU-2 Duct	None Detected	-
	Duct Insulation, Cover	Roof Unit RTU-2 Duct	None Detected	-
18A	Duct Sealant	Roof Unit RTU-2 Duct	None Detected	-

WO#18013104 Asbestos Bulk Samples RI-ANG Building #1

Sample #	Material	Location	Asbestos %	Quantity
01A	Rubber Roofing	Roof Vent EF-4	None Detected	-
02A	Fiberboard	Roof Vent EF-4	None Detected	-
03A	ISO Board	Roof Vent EF-4	None Detected	-
03B	ISO Board	Roof Vent EF-13	None Detected	-
04A	Duct Vibration Cloth	Roof Unit RTU-2	None Detected	-
05A	Roofing Sealant	Roof AC Unit CU-6	None Detected	-
06A	Lexonite	Roof Vent EF-1	None Detected	-
07A	Thermal Barrier	Roof Vent EF-13	None Detected	-
07B	Thermal Barrier	Upper Roof Vent West	None Detected	-
08A	Rubberized Roofing	Upper Roof Vent West	None Detected	-
09A	Penetration Caulking	Upper Roof Vent West	None Detected	-

Conclusion/Limitations:

Asbestos was not detected in the bulk samples collected during the limited asbestos assessment.

Please refer to the previous latrine sampling survey for asbestos containing materials within building #1.

Sampling was performed for a specific scope of work. No attempt was made to survey the building in its entirety. Should the planned scope of work change, additional sampling may be required.

If you have any questions or if I can be of further assistance, please call me at 401-400-9787 or Daniel Simas at 401-438-1360.

Sincerely,
Environmental Consulting & Management, Inc.

Colin Hannagan
ECM Environmental Consultant

Appendix A:
Asbestos Bulk Sample Laboratory Reports

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report
prepared for
Environmental Consulting & Management Inc

Report Date: 4/5/2018

Project Name: RI-ANG Building #1

Project #: 180136

SanAir ID#: 18012898

NVLAP TESTING

NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
18012898
FINAL REPORT
4/5/2018 5:33:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
P.O. Number:
Project Name: RI-ANG Building #1
Collected Date: 3/27/2018
Received Date: 3/29/2018 11:20:00 AM

Dear Colin Hannagan,

We at SanAir would like to thank you for the work you recently submitted. The 28 sample(s) were received on Thursday, March 29, 2018 via FedEx. The final report(s) is enclosed for the following sample(s): 1A, 1B, 1C, 2A, 2B, 2C, 2D, 3A, 3B, 4A, 4B, 4C, 4D, 5A, 6A, 6B, 7A, 8A, 9A, 10A, 11A, 11B, 13A, 14A, 15A, 16A, 17A, 18A.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 28 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
18012898
FINAL REPORT
4/5/2018 5:33:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
P.O. Number:
Project Name: RI-ANG Building #1
Collected Date: 3/27/2018
Received Date: 3/29/2018 11:20:00 AM

Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
1A / 18012898-001 Ceiling Tile	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected
1B / 18012898-002 Ceiling Tile	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected
1C / 18012898-003 Ceiling Tile	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected
2A / 18012898-004 HVAC Duct Insulation, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
2A / 18012898-004 HVAC Duct Insulation, Cover	Silver Fibrous Homogeneous	50% Cellulose 15% Glass	35% Other	None Detected
2B / 18012898-005 HVAC Duct Insulation, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
2B / 18012898-005 HVAC Duct Insulation, Cover	Silver Fibrous Homogeneous	50% Cellulose 15% Glass	35% Other	None Detected
2C / 18012898-006 HVAC Duct Insulation, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
2C / 18012898-006 HVAC Duct Insulation, Cover	Silver Fibrous Homogeneous	50% Cellulose 15% Glass	35% Other	None Detected
2D / 18012898-007 HVAC Duct Insulation, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 4/5/2018 Date: 4/5/2018

SanAir Technologies Laboratory

SanAir ID Number
18012898
FINAL REPORT
4/5/2018 5:33:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
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Project Name: RI-ANG Building #1
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Received Date: 3/29/2018 11:20:00 AM

Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
2D / 18012898-007 HVAC Duct Insulation, Cover	Silver Fibrous Homogeneous	50% Cellulose 15% Glass	35% Other	None Detected
3A / 18012898-008 Fiberglass Metal Banded Line, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
3A / 18012898-008 Fiberglass Metal Banded Line, Wrap	Tan Fibrous Homogeneous	95% Cellulose	5% Other	None Detected
3B / 18012898-009 Fiberglass Metal Banded Line, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
3B / 18012898-009 Fiberglass Metal Banded Line, Wrap	Tan Fibrous Homogeneous	95% Cellulose	5% Other	None Detected
4A / 18012898-010 Mudded Fitting	Grey Non-Fibrous Homogeneous	15% Min. Wool	85% Other	None Detected
4B / 18012898-011 Mudded Fitting	Grey Non-Fibrous Homogeneous	15% Min. Wool	85% Other	None Detected
4C / 18012898-012 Mudded Fitting	Grey Non-Fibrous Homogeneous	15% Min. Wool	85% Other	None Detected
4D / 18012898-013 Mudded Fitting	Grey Non-Fibrous Homogeneous	15% Min. Wool	85% Other	None Detected
5A / 18012898-014 Fiberglass Flex Duct, Insulation	Pink Fibrous Homogeneous	98% Glass	2% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 4/5/2018 Date: 4/5/2018

SanAir Technologies Laboratory

SanAir ID Number
18012898
FINAL REPORT
4/5/2018 5:33:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
P.O. Number:
Project Name: RI-ANG Building #1
Collected Date: 3/27/2018
Received Date: 3/29/2018 11:20:00 AM

Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
5A / 18012898-014 Fiberglass Flex Duct, Wrap	Grey Non-Fibrous Homogeneous	10% Glass	90% Other	None Detected
6A / 18012898-015 Duct Sealant	Grey Non-Fibrous Homogeneous		100% Other	None Detected
6B / 18012898-016 Duct Sealant	Grey Non-Fibrous Homogeneous		100% Other	None Detected
7A / 18012898-017 Fiberglass Insulation, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
7A / 18012898-017 Fiberglass Insulation, Cover	Silver Fibrous Homogeneous	50% Cellulose 15% Glass	35% Other	None Detected
8A / 18012898-018 Fiberglass Elbow, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
8A / 18012898-018 Fiberglass Elbow, Wrap	Tan Fibrous Homogeneous	95% Cellulose	5% Other	None Detected
9A / 18012898-019 Unbanded Finerglass Line, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected
9A / 18012898-019 Unbanded Finerglass Line, Cover	Silver Fibrous Homogeneous	50% Cellulose 15% Glass	35% Other	None Detected
10A / 18012898-020 Boiler Exhaust Insulation, Insulation	Yellow Fibrous Homogeneous	98% Glass	2% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 4/5/2018 Date: 4/5/2018

SanAir Technologies Laboratory

SanAir ID Number
18012898
FINAL REPORT
4/5/2018 5:33:47 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
P.O. Number:
Project Name: RI-ANG Building #1
Collected Date: 3/27/2018
Received Date: 3/29/2018 11:20:00 AM

Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
10A / 18012898-020 Boiler Exhaust Insulation, Cover	Various Fibrous Homogeneous	75% Glass	25% Other	None Detected
11A / 18012898-021 Boiler Upper Bracket Insulation	Tan Non-Fibrous Homogeneous	10% Cellulose 5% Glass	85% Other	None Detected
11B / 18012898-022 Boiler Upper Bracket Insulation	Various Non-Fibrous Homogeneous	10% Glass	90% Other	None Detected
13A / 18012898-023 Boiler Gasket	Tan Fibrous Homogeneous	95% Glass	5% Other	None Detected
14A / 18012898-024 AHU Vibration Cloth	Black Fibrous Homogeneous	50% Glass	50% Other	None Detected
15A / 18012898-025 AHU Caulk	Grey Non-Fibrous Homogeneous		100% Other	None Detected
16A / 18012898-026 Vibration Cloth	Black Non-Fibrous Homogeneous		100% Other	None Detected
17A / 18012898-027 Duct Insulation, Insulation	Black Non-Fibrous Homogeneous		100% Other	None Detected
17A / 18012898-027 Duct Insulation, Cover	Silver Non-Fibrous Homogeneous	10% Glass	90% Other	None Detected
18A / 18012898-028 Duct Sealant	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 4/5/2018 Date: 4/5/2018

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Certifications
NVLAP lab code 200870
City of Philadelphia: ALL-460
PA Department of Environmental Protection Number: 68-05397
California License Number: 2915
Colorado License Number: AL-23143
Connecticut License Number: PH-0105
Massachusetts License Number: AA000222
Maine License Number: LB-0075
New York ELAP lab ID: 11983
Rhode Island License Number: AAL-126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia 3333000323
Washington State License Number: C989
West Virginia License Number: LT000566
Vermont License: AL166318

Revision Date: 11/30/2017

SanAir Technologies Laboratory
1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody

Form 140, Rev 1, 1/20/2017

SanAir ID Number: 18012898

Company: ECM Inc.	Project #: 180136	Collect by: Colin Hannagan
Address: 181 Amaral Street	Project Name: RI-ANG Building #1	Phone #: 401-400-9787
City, St., Zip: Riverside RI 02819	Date Collected: 3/27/2018	Fax #:
State of Collection: RI Account#: 2667	P.O. Number:	Email: CHannagan@gmail.com

Bulk

ABB	PLM EPA 600/R-93/116	■
	Positive Stop ☐	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93 116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Matrix **Other**

		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	☐ 2 Days	☐ 3 Days	☐ 4 Days	■ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
1A	Ceiling Tile					
1B	Ceiling Tile					
1C	Ceiling Tile					
2A	HVAC Duct Insulation					
2B	HVAC Duct Insulation					
2C	HVAC Duct Insulation					
2D	HVAC Duct Insulation					
3A	Fiberglass Metal Banded Line					
3B	Fiberglass Metal Banded Line					
4A	Mudded Fitting					
4B	Mudding Fitting					
4C	Mudded Fitting					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	3/27/18	15:45	JO	3/29/18	11:20

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled. the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page 1 of 2

18012898

Form 140, Revision 1, 1/20/2017

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
4D	Mudded Fitting					
5A	Pink Fiberglass Flex Duct					
6A	Duct Sealant					
6B	Duct Sealant					
7A	White Fiberglass Insulation					
8A	Fiberglass Elbow					
9A	Unbanded Fiberglass Line					
10A	Boiler Exhaust Insulation					
11A	Boiler Upper Bracket Insulation					
11B	"					
13A	Boiler Gasket					
14A	AHU Vibration Cloth					
15A	AHU Caulk					
16A	Vibration Cloth					
17A	Duct Insulation					
18A	Duct Sealant					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	3/27/18	15:45	DO	3/29/18	11:20

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report
prepared for
Environmental Consulting & Management Inc

Report Date: 4/6/2018

Project Name: RI-ANG Building 1

Project #: 180136

SanAir ID#: 18013104

NVLAP TESTING

NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
18013104
FINAL REPORT
4/6/2018 5:55:42 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
P.O. Number:
Project Name: RI-ANG Building 1
Collected Date: 3/29/2018
Received Date: 3/30/2018 11:40:00 AM

Dear Colin Hannagan,

We at SanAir would like to thank you for the work you recently submitted. The 11 sample(s) were received on Friday, March 30, 2018 via FedEx. The final report(s) is enclosed for the following sample(s): 1A, 2A, 3A, 3B, 4A, 5A, 6A, 7A, 7B, 8A, 9A.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 11 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
18013104
FINAL REPORT
4/6/2018 5:55:42 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
P.O. Number:
Project Name: RI-ANG Building 1
Collected Date: 3/29/2018
Received Date: 3/30/2018 11:40:00 AM

Analyst: Wilson, Johnathan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non Fiberous	Asbestos Fibers
1A / 18013104-001 Rubber Roofing	Various Non-Fibrous Homogeneous	10% Synthetic	90% Other	None Detected
2A / 18013104-002 Fiberboard	Brown Fibrous Homogeneous	98% Cellulose	2% Other	None Detected
3A / 18013104-003 ISO Board, Insulation	Black Fibrous Homogeneous	70% Cellulose 20% Glass	10% Other	None Detected
3A / 18013104-003 ISO Board, Insulation	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
3B / 18013104-004 ISO Board, Insulation	Black Fibrous Homogeneous	70% Cellulose 20% Glass	10% Other	None Detected
3B / 18013104-004 ISO Board, Insulation	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
4A / 18013104-005 Duct Vibration Cloth	Various Non-Fibrous Homogeneous		100% Other	None Detected
5A / 18013104-006 Roofing Sealant	Black Non-Fibrous Homogeneous		100% Other	None Detected
6A / 18013104-007 Lexonite	Black Non-Fibrous Homogeneous		100% Other	None Detected
7A / 18013104-008 Thermal Barrier	White Non-Fibrous Homogeneous	15% Glass 5% Cellulose	80% Other	None Detected

Certification

Analyst: Johnathan Wilson

Approved Signatory:

Analysis Date: 4/6/2018

Date: 4/6/2018

SanAir ID Number
18013104
FINAL REPORT
4/6/2018 5:55:42 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 180136
P.O. Number:
Project Name: RI-ANG Building 1
Collected Date: 3/29/2018
Received Date: 3/30/2018 11:40:00 AM

Analyst: Wilson, Johnathan

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	**Appearance**	**% Fibrous**	**% Non Fiberous**	**Asbestos Fibers**
7B / 18013104-009 Thermal Barrier	White Non-Fibrous Homogeneous	15% Glass 5% Cellulose	80% Other	None Detected
8A / 18013104-010 Rubberized Roofing	Black Non-Fibrous Homogeneous		100% Other	None Detected
9A / 18013104-011 Penetration Caulking	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Johnathan Wilson

Approved Signatory:

Analysis Date: 4/6/2018

Date: 4/6/2018

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Certifications
NVLAP lab code 200870
City of Philadelphia: ALL-460
PA Department of Environmental Protection Number: 68-05397
California License Number: 2915
Colorado License Number: AL-23143
Connecticut License Number: PH-0105
Massachusetts License Number: AA000222
Maine License Number: LB-0075
New York ELAP lab ID: 11983
Rhode Island License Number: AAL-126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia 3333000323
Washington State License Number: C989
West Virginia License Number: LT000566
Vermont License: AL166318

Revision Date: 11/30/2017

SanAir Technologies Laboratory

1551 Oakbridge Dr. STE B
Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos Chain of Custody
Form 140, Rev 1, 1/20/2017

SanAir ID Number 18013104

Company: ECM Inc.	Project #: 180136	Collect by: Colin Hannagan
Address: 181 Amaral Street	Project Name: RI-ANG Building 1	Phone #: 401-400-9787
City, St., Zip: Riverside RI 02915	Date Collected: 3/29/2018	Fax #:
State of Collection: RI Account#: 2667	P.O. Number:	Email: CHannagan@ecmne.com

Bulk

ABB	PLM EPA 600/R-93/116	■
	Positive Stop ☐	
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	☐ 2 Days	☐ 3 Days	☐ 4 Days	■ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
1A	Rubber Roofing					
2A	Fiber Board					
3A	ISO Board					
3B	"					
4A	Duct Vibration Cloth					
5A	Black Roofing Sealant					
6A	Black Lexonite					
7A	White Thermal Barrier					
7B	"					
8A	Black Rubberized Roofing					
9A	Penitration Caulking Gray					

Relinquished by	Date	Time	Received by	Date	Time
Colin HAnnagan	03/29/2018	15:45	MC	MAR 30 2018	11:40AM

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST Friday will begin at 8 am Monday morning. Weekend or holiday work must be scheduled ahead of time and is charged for rush turnaround time. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Page___of _____