

SCOPE OF WORK

Roof and HVAC Replacement and Mold Remediation

Winslow Specialty Inspection Station
Winslow, Camden County, N.J.

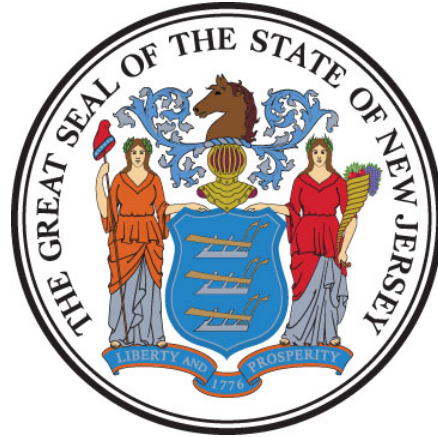
Project No. T0678-00

STATE OF NEW JERSEY

Honorable Philip D. Murphy, Governor
Honorable Sheila Y. Oliver, Lt. Governor

DEPARTMENT OF THE TREASURY

Elizabeth Maher Muoio, Treasurer



DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Christopher Chianese, Director

Date: June 28, 2022

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- B. PROJECT SITE LOCATION MAP
- C. CONCORD ENGINEERING REPORT
- D. OFFICE OF HEALTH & SAFETY REPORT

I. OBJECTIVE

The objective of this project is to remove and replace the roofing and HVAC systems and remediate mold growth within the core office portion of the Winslow Specialty Inspection Station.

II. CONSULTANT QUALIFICATIONS

A. CONSULTANT & SUB-CONSULTANT PRE-QUALIFICATIONS

The Consultant shall be a firm pre-qualified with the Division of Property Management & Construction (DPMC) in the following discipline(s):

- **P001 Architecture**

The Consultant shall also have in-house capabilities or Sub-Consultants pre-qualified with DPMC in:

- **P003 HVAC Engineering**
- **P028 Roofing Inspection**
- **P059 Environmental Consultant**

As well as, **any and all** other Architectural, Engineering and Specialty Disciplines necessary to complete the project as described in this Scope of Work (SOW).

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The initial Construction Cost Estimate (CCE) for this project is \$700,000.

The Consultant shall review this Scope of Work and provide a narrative evaluation and analysis of the accuracy of the proposed project CCE in its technical proposal based on its professional experience and opinion.

B. CURRENT WORKING ESTIMATE (CWE)

The Current Working Estimate (CWE) for this project is \$1,021,500.

The CWE includes the construction cost estimate and all consulting, permitting and administrative fees.

The CWE is the Client Agency’s financial budget based on this project Scope of Work and shall not be exceeded during the design and construction phases of the project unless DPMC approves the change in Scope of Work through a Contract amendment.

C. CONSULTANT’S FEES

The construction cost estimate for this project *shall not* be used as a basis for the Consultant’s design and construction administration fees. The Consultant’s fees shall be based on the information contained in this Scope of Work document and the observations made and/or the additional information received during the pre-proposal meeting.

IV. PROJECT SCHEDULE

A. SCOPE OF WORK DESIGN & CONSTRUCTION SCHEDULE

The following schedule identifies the estimated design and construction phases for this project and the estimated durations.

PROJECT PHASE	ESTIMATED DURATION (Calendar Days)
1. Site Access Approvals & Schedule Design Kick-off Meeting	14
2. Design Development Phase 50% (Minimum)	42
• <i>Project Team & DPMC Plan/Code Unit Review & Comment</i>	14
3. Final Design Phase 100%	42
• <i>Project Team & DPMC Plan/Code Unit Review & Approval</i>	14
4. Final Design Re-Submission to Address Comments	7
• <i>Project Team & DPMC Plan/Code Unit Review & Approval</i>	14
5. DCA Submission Plan Review	30
6. Permit Application Phase	7
• <i>Issue Plan Release</i>	
7. Bid Phase	42
8. Award Phase	28
9. Construction Phase	150

B. CONSULTANT’S PROPOSED DESIGN & CONSTRUCTION SCHEDULE

The Consultant shall submit a project design and construction bar chart schedule with its technical proposal that is similar in format and detail to the schedule depicted in **Exhibit ‘A’**. The bar chart schedule developed by the Consultant shall reflect its recommended project phases, phase activities, activity durations.

The Consultant shall estimate the duration of the project Close-Out Phase based on the anticipated time required to complete each deliverable identified in Section XIV of this document entitled “Contract Deliverables - Project Close-Out Phase” and include this information in the bar chart schedule submitted.

A written narrative shall also be included with the technical proposal explaining the schedule submitted and the reasons why and how it can be completed in the time frame proposed by the Consultant.

This schedule and narrative will be reviewed by the Consultant Selection Committee as part of the evaluation process and will be assigned a score commensurate with clarity and comprehensiveness of the submission.

C. CONSULTANT DESIGN SCHEDULE

Based on the Notice to Proceed, Consultant shall update its approved schedule and shall distribute it at the design kickoff meeting. Note that this schedule shall be submitted in both paper format and on compact disk in a format compatible with *Microsoft Project*. This schedule will be binding for the Consultant’s activities and will include the start and completion dates for each design activity. The Consultant and Project Team members shall use this schedule to ensure that all design milestone dates are being met for the project. The Consultant shall update the schedule to reflect performance periodically (minimally at each design phase) for the Project Team review and approval. Any recommendations for deviations from the approved design schedule must be explained in detail as to the causes for the deviation(s) and impact to the schedule.

D. BID DOCUMENT CONSTRUCTION SCHEDULE

The Consultant shall include a construction schedule in Division 1 of the specification bid document. This schedule shall contain, at minimum, the major activities and their durations for each trade specified for the project. This schedule shall be in “bar chart” format and will be used by the Contractors as an aid in determining their bid price. It shall reflect special sequencing or phased construction requirements including, but not limited to: special hours for building access,

weather restrictions, imposed constraints caused by Client Agency program schedules, security needs, lead times for materials and equipment, anticipated delivery dates for critical items, utility interruption and shut-down constraints, and concurrent construction activities of other projects at the site and any other item identified by the Consultant during the design phases of the project.

E. CONTRACTOR CONSTRUCTION PROGRESS SCHEDULE

The Contractor shall be responsible for preparing a coordinated combined progress schedule with the Sub-Contractors after the award of the contract. This schedule shall meet all of the requirements identified in the Consultant’s construction schedule. The construction schedule shall be completed in accordance with the latest edition of the Instructions to Bidders and General Conditions and Bulletins that may be issued on the project.

The Consultant must review and analyze this progress schedule and recommend approval/disapproval to the Project Team until a satisfactory version is approved by the Project Team. The Project Team must approve the baseline schedule prior to the start of construction and prior to the Contractor submitting invoices for payment.

The Consultant shall note in Division 1 of the specification that the State will not accept the progress schedule until it meets the project contract requirements and any delays to the start of the construction work will be against the Contractor until the date of acceptance by the State.

The construction progress schedule shall be reviewed, approved, and updated by the Contractor, Consultant, and Project Team members at each regularly scheduled construction job meeting and the Consultant shall note the date and trade(s) responsible for project delays (as applicable).

V. PROJECT SITE LOCATION & TEAM MEMBERS

A. PROJECT SITE ADDRESS

The location of the project site is:

Winslow Vehicle Inspection Station
550 Spring Garden Road
Winslow, NJ

See **Exhibit 'B'** for the project site location map.

B. PROJECT TEAM MEMBER DIRECTORY

The following are the names, addresses, and phone numbers of the Project Team members.

1. DPMC Representative:

Name: Ronald Kraemer, Project Manager
Address: Division Property Management & Construction
20 West State Street, 3rd Floor
Trenton, NJ 08608-1206
Phone No: (609) 633-7186
E-Mail No: ronald.kraemer@treas.nj.gov

2. Motor Vehicle Commision:

Name: Michael Bull, Project Manager
Address: Motor Vehicle Commission
225 East State Street, P.O. Box 145
Trenton, NJ 08666-0145
Phone No: (609) 358-2479
E-Mail No: michael.bull@mvc.nj.gov

VI. PROJECT DEFINITION

A. BACKGROUND

The Winslow Specialty Inspection Station specializes in inspection of Specialty Motor Vehicles such as busses and trucks. The inspection station also performs motor vehicle repairs.

The New Jersey Motor Vehicle Commission (NJ MVC) owns the Winslow Vehicle Inspection Station. The office core of the building has experienced difficulty with its HVAC System, due to depreciating equipment and faulty installation at certain locations. The issues with the HVAC system have also caused mold issues to arise within the office core of the building. In addition, the roof is in poor condition and requires replacement.

B. FUNCTIONAL DESCRIPTION OF THE BUILDING

The Winslow Specialty Inspection Station is a one story building located at 550 Spring Garden Road, Ancora, NJ. The core office portion of the building that adjoins the inspection portion of the building is a single story building 96' long by 34' wide. The core office houses office space for two functions: Specialty Inspection and CDL Driver Testing. There are a total of about twelve (12) staff between the two functions. The hours of operation of this facility are Monday to Friday from 8AM until 4:30 PM and Saturday from 8:00AM until 12:00 PM.

In 2012, Concord Engineering was employed to evaluate the HVAC units which serve the spaces within the Winslow Inspection Station main building. The findings concluded that the HVAC system is not being controlled by the Building Automation System (BAS). This appears to be causing the majority of the indoor environment quality issues, see attached **Exhibit 'C'** titled: Retro-Commissioning of the Winslow Township Motor Vehicle Facility: Final Retro-Commissioning Report dated October 1, 2012.

Miller-Remick LLC was hired under DPMC Project T0575-00 to provide design services to replace the HVAC system and remediate mold in the building. Design drawings were created in 2017. Funding for construction fell short and the project was cancelled. A complete set of bid drawings and specifications in hardcopy form from project T0575-00 will be provided to the awarded Consultant. Miller-Remick had proposed a phasing plan to allow the facility to remain in operation during construction. The consultant may consider the same or a temporary trailer for staff to allow for continuous operation.

In May 2016, the Office of Health & Safety inspected the Winslow Specialty Inspection Station regarding the visible mold issue. Visible mold is still present in the facility and hazards are summarized in the attached **Exhibit 'D'** titled Winslow Specialty Site Mold Issue dated May 12, 2016. Since the report, the building has had some duct cleaning but mold remains an issue.

The existing EPDM rubber type roof on the building is leaking and in need of replacement.

VII. CONSULTANT DESIGN RESPONSIBILITIES

A. NEW ROOF DESIGN REQUIREMENTS

The Consultant shall provide the Design, Construction Administration, Permitting and Bid/Award services to replace the existing roof on the core office building at the Winslow Specialty Inspection Station.

1. Roof System Removal:

The existing roof system, insulation, flashings, and related trims shall be completely removed to the original decking and legally disposed. The removal of the existing roof system shall be coordinated with the installation of the new roof to prevent exposure to weather conditions and potential water infiltration into the building.

Design documents shall identify all requirements for safety devices, need for chutes and/or cranes for roof material removal, dumpster location, protection from exposure to the weather, protection of property and personnel, building access routes and circulation patterns, contractor use of the premises, parking, security procedures, equipment and materials storage, waste disposal, etc.

To minimize disruption to unexcavated areas and enhance the protection of fragile underground utilities, ground mats are to be used if heavy equipment (cranes, tractor trailers, dumpsters etc...) are expected to travel over or operate from unpaved areas.

Consultant shall provide detailed plan showing location(s) of staging areas, indicating location(s) of existing fragile underground utilities and indicating where protection plate(s) shall be placed.

2. New Roofing System Criteria:

Provide the design for a new roofing system in accordance with the requirements of the roofing Manufacturer. The manufacturer of the roofing system shall have no less than five (5) years successful experience in producing the materials required for this project. Membrane, flashing, adhesive and all materials shall be the single product of a standard manufacturer. New roofing materials, with less than 5 years of successful application in the field, will not be accepted for this project.

The roofing system shall be in accordance with the latest adopted version ASHRAE energy standards.

The roofing system shall be in compliance with the “Factory Mutual Research Corp” (FMRC) standards and must meet all requirements of Factory Mutual I-90 classification for wind uplift.

The Contractor shall supply only a U.L. Class “A” fire rated roofing system.

If the roofing system and/or related components are not a replacement in kind, then the Consultant shall submit a signed and sealed letter or calculations to the DPMC Design and Code Review Unit Manager verifying that the existing roof structure can support all loads of the new roofing system and components per current code requirements or the consultant may submit calculations of the new load as compared to the existing (old) load in order to prove the structure is sufficient.

The design documents shall address the roof manufacturer’s installation criteria, occupancy of the building, access to the building roof and security issues, approved storage methods of the roofing materials, etc.

3. Caulking & Joint Sealants:

All appropriate roof deck joint sealants shall be removed and replaced with high performance sealant as part of the roof system. The consultant shall specify low VOC sealants wherever possible. The design shall include the cleaning, priming, and installation of new sealants with new backer rods and bond breakers.

Examine and measure all exterior joints and calculate the required joint width(s). Design for widening joints as required.

Observe the installation of the sealant joints, performing pull tests for cohesion and adhesion on a random sampling of each joint type.

Specify that the sealant manufacturer must provide a warranty for a minimum of twenty (20) years for any repairs to maintain joints in a leak free condition and at no cost to the State.

4. Insulation:

The Consultant shall recommend new high-density rigid insulation boards that comply with current energy code requirements. Ensure the roofing system manufacturer approves the method of fastening the insulation board through the medium to the roof deck system.

Flat roofs shall be avoided by using tapered insulation or another method to promote positive drainage to the roof drains. Incorporate a roof design that shall slope a minimum of ¼” per foot (½” per foot preferred).

DPMC does not permit Urethane material insulation due to a history of gas release and bubbling under the roofing ply layer(s).

5. Flashing:

All rooftop HVAC curbing, parapet walls, pipe supports, pipe vents, roof hatch, and other roof penetrations must have new flashing installed as part of this project.

All pipe flashings are to be pre-molded and provided with stainless steel pipe clamps at each penetration.

6. Parapet Walls & Coping:

All of the coping is to be replaced. Provide a design to replace any damaged coping and parapet walls as part of this project including design details to seal the coping joints.

Address any required increase to the height of the existing parapet walls based on the tapered insulation thickness selected for energy requirements and to obtain the proper slope to the roof drains.

7. Removals:

Remove all unused antennas, conduit, piping, structural steel support systems, curbing, etc. as part of this project. Details shall be included on the drawings that indicate the methods to seal all roof penetrations and cap all piping below the new roofline.

8. Walkways:

Provide new walkway pads from access points to and around all roof-mounted equipment requiring periodic servicing and any other trafficking areas. Verify that the pads are compatible with the new roofing system. If their condition is not suitable or if the existing pads are not compatible with the new roofing system, specify new pads, detail their installation, and indicate their location on the plans.

9. Roof Drains:

Roof drains shall be tested by the A/E prior to and after the installation of the new roof by the contractor to determine functionality. The Consultants shall test roof drains using a 3/4” hose flowing for 30 minutes. The contractor shall perform the same test prior to starting roof removal

and upon completion. Clogged roof drains shall be cleared. All drains shall be removed and reset or repositioned so that the drain is below the roof membrane surface. Provide for the interior cleaning, repair, replacement and additional drains as required and ensure that drainage water will be carried away from the building foundations, footings, lanes, sidewalks and driveways. Investigate the abandonment of leaking interior drain lines and/or replace as necessary. Install new interior lines where access is impossible for repairs and/or replacement. New drains can be tied into existing drain piping to avoid disturbing interior finishes.

10. Night Seals:

Specify in the design documents that only as much roofing insulation, membrane, and flashing as can be made weather tight shall be demolished and installed each day. Install temporary water tight night seals around all exposed edges of the roofing assembly at the end of each work day and when work must be postponed due to inclement weather. No application of tarps will be acceptable as a temporary seal of an open roof area day or night.

11. Fire Protection Program:

Address fire protection requirements during the demolition and installation of the roofing system. Language shall be included that states open flames such as propane torches, kettles, flame cutting, and welding cannot be used on the construction site until a fire watch program has been submitted by the Contractor and approved by the Consultant and Project Team members.

If hot work is needed, the Contractor is required to obtain and conform to the requirements of two (2) separate hot work permits:

The Contractor must contact the New Jersey Division of Fire Safety (DFS) to obtain a hot work permit for the duration of this Project as required by N.J.A.C. 5:70-2.7. Application must be completed via DCA RIMS website, https://www.nj.gov/dca/divisions/codes/RIMS_online.html which requires account set up by the applicant. The Contractor must pay DFS directly for this permit. The estimated cost is approximately one hundred and fifty (\$150.00) dollars for each permit and a separate permit will be required for the work to be performed at each building.

The Contractor shall submit a copy of the DFS Hot Work Permit for each building prior to commencing the hot work. The Contractor will also need to obtain a daily hot work permit from the Facility, as required by the currently adopted version of the International Fire Code, New Jersey Edition, Chapter 29 and by the State's Insurance Carrier. There is no fee for this Permit.

12. Allowable Roof System Installation:

The design documents shall specify the weather and temperature installation restrictions based on the roof system manufacturer's recommendations.

13. Unit Prices:

If the total amount or quantity of repair work cannot be determined for a roof related item by the roof inspection process, then the Consultant shall include a “Unit Price” Section in Division 1 of the specification for that item. Items may include the replacement of deteriorated concrete or metal decking, plywood sheathing, wood blocking or curbing, vapor barriers, interior roof drains, etc.

14. Warranty:

The roofing manufacturer’s warranty shall be for a minimum period of twenty (20) years.

B. ROOF MONITOR:

The Consultant shall provide a full time roof monitor during the installation of the roof system on the building. Refer to Section **VIII**, paragraph **H** in this scope of work for Roof Monitor Responsibilities.

The Consultant shall have in-house capabilities or a Sub-Consultant pre-qualified with DPMC in the P028 Roofing Inspection Specialty Discipline. The costs for the services provided by the roof monitor shall be included in their fee proposal line item entitled “**Roof Monitor Allowance**”, refer to paragraph **XI.B**.

Consultant shall confirm the construction time durations of roof removal and replacement with the hours necessary for monitoring and include monitor’s hours in proposal.

C. CONTRACTOR CERTIFICATION

The Consultant shall state in the design documents that the DPMC Contractor Classification Group must have certification in writing from the roofing system manufacturer that the Roofing Contractor is a licensed or approved installer of the roofing system selected for the project. The certification can be delivered post bid but must be delivered prior to contract award.

D. HVAC

The Consultant shall review the existing documentation from DPMC Project T0575-00 and the Concord Engineering Report entitled Final Retro-Commissioning of the Winslow Township Motor Vehicle Facility: Final Retro-Commissioning Report dated October 01, 2012, and provide the Design, Construction Administration, Permitting and Bid/Award services to upgrade the HVAC system within the core office area at the Winslow Specialty Inspection Station. See **Exhibit ‘C’** for the Concord report. Within this report, Findings and Recommendations for repairs to the Building Automation System (BAS), the Supply and Return Ductwork, Air

Handler Unit, Exhaust Fans, Ductless Split Systems, Boiler System, and the Indoor Environment are outlined.

The Consultant is to provide a design and specifications to resolve the recommendations outlined within the report. The specifications shall describe the preferred new systems or equipment and shall list the names of three equal manufacturers for each.

The Consultant shall also provide structural calculations for the installation of the Air Handler being hung from the structural steel.

Design all associated HVAC controls necessary for the proper operation of the HVAC units, their related components and building temperature levels. Control items to address shall include, but not be limited to the following: thermostats, smoke detectors, HVAC fan motor shutdown and interface with the existing fire detection system and fire alarm panel.

All system automatic electronic controls shall have a manual override feature.

The drawings shall include all equipment schedules indicating the air conditioning equipment by symbol designation, name and estimated size or capacity in BTU, GPM, gallons, etc. Include ventilation schedules for all building spaces. Indicate the location of all air conditioning equipment, all major piping, and all duct runs in the mechanical room and floors of the building as it relates to this equipment.

The Consultant shall include language in the design documents stating that the contractor shall be responsible for replacing all metal grid and ceiling tiles that become damaged. Areas of construction must be isolated with construction barriers to eliminate dirt and dust and provide safety for school students and administration personnel when the school is occupied.

Provide design for electrical supply, panels, breakers, etc. for new units and ancillary equipment where required.

Existing refrigerant shall be properly disposed. The Contractor shall supply the initial charge of new refrigerant.

3. Schedule:

Construction requirements shall be identified in the design documents that will minimize disruption of the HVAC system. A phased construction schedule shall be included in the specification identifying long lead item delivery dates and the sequence of installation. Special demolition and removal procedures shall be identified in the design documents for the existing units and related components.

E. TESTING AND BALANCING

The Consultant shall, during the investigation phase of its work, use its discretion and experience to determine whether HVAC System Testing and Balancing is needed in order to properly assess the function of the existing HVAC System. Such HVAC System Testing and Balancing shall be performed by a qualified firm. It is not required that such firm be pre-qualified with DPMC, however a NJ Business Registration Certificate will be required.

As part of the design documents, the Consultant shall ensure that, following construction, the Contractor is required to hire a qualified HVAC Testing and Balancing firm, and such firm shall perform system tests to ensure that the HVAC system as installed performs as specified and designed. The design documents shall further require that the HVAC System Testing and Balancing firm shall produce a report setting forth its findings, adjustments, recommendations, and further that it shall certify that the HVAC system meets the design intent and will perform as specified and designed and that that all equipment, i.e., fans, controls, dampers, and devices requiring adjustments or regulation are properly installed, thoroughly cleaned, adjusted, or regulated for proper operation and free from objectionable noise and vibration. It is not required that such firm be pre-qualified with DPMC, however a NJ Business Registration Certificate will be required.

As part of Consultant's Construction Site Administration services as set forth in Section VIII (F) below, it will oversee the Contractor's work and their hiring of a HVAC System Testing and Balancing firm. The Consultant shall further ensure that any testing and balancing is performed in accordance with the current Association Air Balancing Council Standards or other State approved associations. Any system tests shall be observed and approved by the DPMC Project Manager and Code Group and a copy of the certified report and certification referred to above is to be provided to the DPMC Project Manager. The system shall be maintained by the maintenance personnel in accordance with the report data and operating manuals provided by the Contractor.

F. DECONTAMINATION DESIGN CRITERIA

The Consultant shall prepare design documents that will identify the location and procedures required to clean, disinfect, and/or remove the contaminated materials located in the building.

G. SITE REQUIREMENTS

The Consultant shall provide for a temporary facility for use by the staff during construction or provide for phased construction. Provide for the construction of the temporary facility prior to demolition, if necessary.

1. Contractor Use of the Premises:

Determine the coordination, policies, and procedures with the Project Team and the Contractor with respect to parking, material staging, and storage areas, use of utilities, allowable hours of construction, the need and location of portable toilets, the need and location of construction and storage trailers, etc. and include the information in Division 1 of the specification.

2. Dumpster:

If a dumpster is required, the location shall be shown on the site plan in an area approved by the Project Team in a locked, fenced in construction area. The frequency of debris removal shall be identified in the design specification.

3. Special Sequencing:

The contract documents must incorporate special sequencing of the work, if necessary, to be coordinated with the Project Team in order to provide for any functional requirement of the facility. Items shall include, but not be limited to: safety/security requirements, pedestrian and vehicle traffic flow, weather and/or seasonal concerns, and shut down of any physical plant functions or services.

4. Site Restoration:

Include in the contract documents that the site must be restored to pre-construction conditions after construction has been completed and approved.

H. SPECIAL CONSIDERATIONS

1. Hours of Work:

Identify the approved construction work hours for this project in Division 1 of the specification. Additional construction hours during the day or weekends will be allowed if the Contractor obtains prior approval from the DPMC Project Manager in Consultation with the Project Team members. If additional hours of work are allowed, it will be at no added cost to the contract. The building will be occupied during construction.

2. Material Staging:

The Project Team shall approve the construction material staging area and the location shall be shown on the project site plan.

3. Material Safety Data Sheets (MSDS):

Specify in the contract documents that the Contractor shall provide material safety data sheets on site for all roofing materials used such as: sealants, bonding adhesives, solvents, bitumen, etc. as part of the product submittal. The MSDS will be distributed by the A/E to the project team and in particular, to the facility's safety officer prior to the start of any work.

4. Fire Extinguishers:

Design documents shall require the Contractor to make provisions for stand-by portable fire extinguishers of proper size and type. They shall be located near any source of open flame or spark and all contractor employees shall be trained in their proper use.

5. Material Protection:

All stored roofing felts, insulation boards, and/or other roofing components shall be protected from the elements and moisture with weighted plastic sheet covers or other approved materials.

6. Fencing:

All security fencing that is required around the construction site or elements of the site such as storage trailers, construction materials, buildings, equipment, etc. shall be identified on the design drawings where appropriate. Fencing must be construction type chain link, minimum of 8' high, on platforms at the joints, joints must be secure and the opening must be padlocked and 6 sets of keys need to be provided to the facility.

7. Existing Equipment Removal & Replacement:

Identify on the design drawings any existing equipment and materials that must be removed in order to install any component of the new roofing system such as: lights, security cameras, lightning protection systems, antennas, piping, conduit, dishes, etc. and include details indicating the approved methods of reattachment. All removed equipment shall be reinstalled in the same configuration prior to removal.

8. HVAC Unit, Roof Ventilators, Intake Fans:

Requirements to shut down all rooftop equipment and allowable hours of adhesive application shall be identified in the contract documents to prevent fumes from entering the building.

9. Debris Safety:

Measures shall be taken to protect staff and residents from any material or debris that might fall off from the roof onto roadways or sidewalks.

I. GENERAL DESIGN OVERVIEW

1. Design Detail:

Section VII of this Scope of Work is intended as a guide for the Consultant to understand the overall basic design requirements of the project and is not intended to identify each specific design component related to code and construction items. The Consultant shall provide those details during the design phase of the project ensuring that they are in compliance with all applicable codes, regulating authorities, and the guidelines established in the DPMC Procedures for Architects and Engineers Manual.

The Consultant shall understand that construction documents submitted to DPMC shall go beyond the basic requirements set forth by the Uniform Construction Code N.J.A.C. 5:23-2.15(f). Drawings and specifications shall provide detail beyond that required to merely show the nature and character of the work to be performed. The construction documents shall provide sufficient information and detail to illustrate, describe and clearly delineate the design intent of the Consultant and enable all Contractors to uniformly bid the project.

The Consultant shall review and comply with the DPMC “Plan Review Instructions” which can be found on DPMC’s web site at:

http://www.state.nj.us/treasury/dpvc/lists_and_publications.shtml

The Consultant shall ensure that all of the design items described in this scope of work are addressed and included in the project drawings and specification sections where appropriate.

It shall be the Consultant’s responsibility to provide all of the design elements for this project. Under no circumstance may they delegate the responsibility of the design; or portions thereof, to the Contractor unless specifically allowed in this Scope of Work.

2. Specification Format:

The Consultant shall prepare the construction specifications in the Construction Specifications Institute (CSI) format entitled MasterFormat®, latest edition.

The project construction specifications shall include only those CSI MasterFormat® specification sections and divisions applicable to this specific project.

3. Submittal Schedule:

The Consultant shall include a submittal log in Division 1 of the specifications. The schedule (list of required submittals) shall identify the general conditions and/or specification section (number and name) and the type of submittal required (material data, product data, test results, calculations, etc.). The submittal schedule is a compilation of the submittals required on the project and is provided as an aid to the contractor.

4. Construction Cost Estimates:

The Consultant shall include with each design submittal phase identified in Paragraph IV.A, including the Permit Application Phase and Bid Phase, a detailed construction cost estimate itemized and summarized by the divisions and sections of the Construction Specification Institute (CSI) MasterFormat© latest edition applicable to the project.

The detailed breakdown of each work item shall include labor, equipment, material and total costs.

The construction estimate shall include all alternate bid items and all unit price items itemized and summarized by the divisions and sections of the specifications.

All cost estimates shall be adjusted for regional location, site factors, construction phasing, premium time, building use group, location of work within the building, temporary swing space, security issues, and inflation factors based on the year in which the work is to be performed.

The cost estimate shall include descriptions of all allowances and contingencies noted in the estimate.

All cost estimates must be submitted on a DPMC-38 Project Cost Analysis form at each design phase of the project supported by the detailed construction cost estimate. The Project Manager will provide cost figures for those items which may be in addition to the CCE such as art inclusion, CM services, etc. and must be included as part of the CWE. This cost analysis must be submitted for all projects regardless of the Construction Cost Estimate amount.

J. PROJECT COMMENCEMENT

A pre-design meeting shall be scheduled with the Consultant and the Project Team members at the commencement of the project to obtain and/or coordinate the following information:

1. Project Directory:

Develop a project directory that identifies the name and phone number of key designated representatives who may be contacted during the design and construction phases of this project.

2. Site Access:

Develop procedures to access the project site and provide the names and phone numbers of approved escorts when needed. Obtain copies of special security and policy procedures that must be followed during all work conducted at the facility and include this information in Division 1 of the specification.

3. Project Coordination:

Review and become familiar with any current and/or future projects at the site that may impact the design, construction, and scheduling requirements of this project. Incorporate all appropriate information and coordination requirements in Division 1 of the specification.

4. Existing Documentation:

Copies of the following documents will be provided to each Consulting firm at the pre-proposal meeting to assist in the bidding process.

- DPMC Project No. T0575-00: **HVAC Replacement & Mold Remediation** (Drawings, Issue for Bid), July 31, 2017, Miller-Remick LLC

Review these documents and any additional information that may be provided at a later date such as reports, studies, surveys, equipment manuals, as-built drawings, etc. The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the Consultant to verify the contents and assume full responsibility for any determination or conclusion drawn from the material used. If the information provided is insufficient, the Consultant shall take the appropriate actions necessary to obtain the additional information required.

All original documentation shall be returned to the provider at the completion of the project.

5. Scope of Work:

Review the design and construction administration responsibilities and the submission requirements identified in this Scope of Work with the Project Team members. Items such as: contract deliverables, special sequencing or phased construction requirements, special hours for construction based on Client Agency programs or building occupancy, security needs, delivery dates of critical and long lead items, utility interruptions or shut down constraints for tie-ins, weather restrictions, and coordination with other project construction activities at the site shall be addressed.

This information and all general administrative information; including a narrative summary of the work for this project, *shall be included in Division 1* of the specification. The Consultant shall assure that there are no conflicts between the information contained in Division 1 of the specification and the DPMC General Conditions.

6. Project Schedule:

Review and update the project design and construction schedule with the Project Team members.

K. BUILDING & SITE INFORMATION

The following information shall be included in the project design documents.

1. Building Classification:

Provide the building Use Group Classification and Construction Type on the appropriate design drawing.

2. Building Block & Lot Number:

Provide the site Block and Lot Number on the appropriate design drawing.

3. Building Site Plan:

Only when the project scope involves site work, or when the design triggers code issues that require site information to show code compliance, shall a site plan be provided that is drawn in accordance with an accurate boundary line survey. The site plan shall include, but not be limited to, the following as may be applicable:

- The size and location of new and existing buildings and additions as well as other structures.
- The distance between buildings and structures and to lot lines.
- Established and new site grades and contours as well as building finished floor elevations.
- New and existing site utilities, site vehicular and pedestrian roads, walkways and parking areas.

4. Site Location Map:

Provide a site location map on the drawing cover sheet that identifies the vehicular travel routes from major roadways to the project construction site and the approved access roads to the Contractor's worksite staging area.

L. DESIGN MEETINGS & PRESENTATIONS

1. Design Meetings:

Conduct the appropriate number of review meetings with the Project Team members during each design phase of the project so they may determine if the project meets their requirements, question any aspect of the contract deliverables, and make changes where appropriate. The Consultant shall describe the philosophy and process used in the development of the design criteria and the various alternatives considered to meet the project objectives. Selected studies, sketches, cost estimates, schedules, and other relevant information shall be presented to support the design solutions proposed. Special considerations shall also be addressed such as: Contractor site access limitations, utility shutdowns and switchover coordination, phased construction and schedule requirements, security restrictions, available swing space, material and equipment delivery dates, etc.

It shall also be the responsibility of the Consultant to arrange and require all critical Sub-Consultants to be in attendance at the design review meetings.

Record the minutes of each design meeting and distribute within seven (7) calendar days to all attendees and those persons specified to be on the distribution list by the Project Manager.

2. Design Presentations:

The minimum number of design presentations required for each phase of this project is identified below for reference:

Design Development Phase: One (1) oral presentation at phase completion.

Final Design Phase: One (1) oral presentation at phase completion.

M. CONSTRUCTION BID DOCUMENT SUBMITTAL

In addition to submitting construction bid documents as defined in Section XIV Contract Deliverables, Consultant shall submit both specifications and drawings on compact disk (CD) in *Adobe Portable Document Format (.pdf)*.

VIII. CONSULTANT CONSTRUCTION RESPONSIBILITIES

A. GENERAL CONSTRUCTION ADMINISTRATION OVERVIEW

This section of the Scope of Work is intended as a guide for the Consultant to understand its overall basic construction administration responsibilities for the project and does not attempt to identify each specific activity or deliverable required during this phase. The Consultant shall obtain that information from the current publication of the DPMC Procedures for Architects and Engineers Manual and any additional information provided during the Consultant Selection Process.

B. PRE-BID MEETING

The Consultant shall attend, chair, record and distribute minutes of the Contractor pre-bid meetings. When bidders ask questions that may affect the bid price of the project, the Consultant shall develop a Bulletin(s) to clarify the bid documents in the format described in the Procedures for Architects and Engineers Manual, Section 9.2 entitled “Bulletins.” These Bulletins must be sent to DPMC at least seven (7) calendar days prior to the bid opening date. DPMC will then distribute the document to all bidders.

C. POST BID REVIEW MEETING, RECOMMENDATION FOR AWARD

The Consultant; in conjunction with the Project Manager, shall review the bid proposals submitted by the various Contractors to determine the low responsible bid for the project. The Consultant, in conjunction with the Project Manager and Project Team members, shall develop a post bid questionnaire based on the requirements below and schedule a post bid review meeting with the Contractor’s representative to review the construction costs and schedule, staffing, and other pertinent information to ensure they understand the Scope of the Work and that their bid proposal is complete and inclusive of all requirements necessary to deliver the project in strict accordance with the plans and specifications.

1. Post Bid Review:

Review the project bid proposals including the alternates, unit prices, and allowances within seven (7) calendar days from the bid due date. Provide a bid tabulation matrix comparing all bids submitted and make a statement about the high, low, and average bids received. Include a comparison of the submitted bids to the approved current construction cost estimate. When applicable, provide an analysis with supporting data, detailing why the bids did not meet the construction cost estimate.

2. Review Meeting:

Arrange a meeting with the apparent low bid Contractor to discuss its bid proposal and other issues regarding the award of the contract. Remind the Contractor that this is a Lump Sum bid. Request the Contractor to confirm that its bid proposal does not contain errors. Review and confirm Alternate pricing and Unit pricing and document acceptance or rejection as appropriate.

Comment on all omissions, qualifications and unsolicited statements appearing in the proposals. Review any special circumstances of the project. Ensure the Contractor's signature appears on all post bid review documents.

3. Substitutions:

Inquire about any potential substitutions being contemplated by the Contractor and advise them of the State's guidelines for the approval of substitutions and the documentation required. Review the deadline and advise the Contractor that partial submissions are not acceptable. Submission after the deadline may be rejected by the State.

Equal substitutions that are proposed by the Contractor that are of lesser value must have a credit change order attached with the submittal (See Article 4.7.5 "Substitutions" of the General Conditions). The State has the right to reject the submission if there is no agreement on the proposed credit. Contractor will be responsible to submit a specified item.

4. Schedule:

Confirm that the Contractor is aware of the number of calendar days listed in the contract documents for the project duration and that the Contractor's bid includes compliance with the schedule duration and completion dates. Particular attention shall be given to special working conditions, long lead items and projected delivery dates, etc. Review project milestones (if applicable). This could give an indication of Contractor performance, but not allow a rejection of the bid.

Review the submittal timeframes per the Contract documents. Ask the Contractor to identify what products will take over twenty-eight (28) calendar days to deliver from the point of submittal approval.

If a CPM Schedule is required, review the provisions and have Contractor acknowledge the responsibility. Ask for the name of the CPM Scheduler and the "ballpark" costs.

5. Performance:

Investigate the past performance of Contractor by contacting Architects and owners (generally three of each) that were listed in the DPMC pre-qualification package or other references that

may have been provided. Inquire how the Contractor performed with workmanship, schedule, project management, change orders, cooperation, paper work, etc.

6. Letter of Recommendation:

The Consultant shall prepare a Letter of Recommendation for contract award to the Contractor submitting the lowest responsible bid within three (3) calendar days from the post bid review meeting. The document shall contain the project title, DPMC project number, bid due date and expiration date of the proposal. It shall include a detailed narrative describing each post bid meeting agenda item identified above and a recommendation to award the contract to the apparent low bid Contractor based on the information obtained during that meeting. Describe any acceptance or rejection of Alternate pricing and Unit pricing.

Comment on any discussion with the Contractor that provides a sense of its understanding of the project and any special difficulties that they see, and how they might approach those problems.

Attach all minutes of the Post bid meeting and any other relevant correspondence with the Letter of Recommendation and submit them to the Project Manager.

7. Conformed Drawings:

The Consultant shall prepare and distribute two (2) sets of drawings stamped “Conformed Drawings” to the Project Manager that reflect all Bulletins and/or required changes, additions, and deletions to the pertinent drawings within fourteen (14) calendar days of the construction contract award date.

Any changes made in Bulletins, meeting minutes, post bid review requirements shall also be reflected in the specification.

D. DIRECTOR’S HEARING

The Consultant must attend any Director’s hearing(s) if a Contractor submits a bid protest. The Consultant shall be present to interpret the intent of the design documents and answer any technical questions that may result from the meeting. In cases where the bid protest is upheld, the Consultant shall submit a new “Letter of Recommendation” for contract award. The hours required to attend the potential hearings and to document the findings shall be estimated by the Consultant and the costs will be included in the base bid of its fee proposal.

E. CONSTRUCTION JOB MEETINGS, SCHEDULES, LOGS

The Consultant shall conduct all of the construction job meetings, to be held bi-weekly for the duration of construction, in accordance with the procedures identified in the A/E manual and those listed below.

1. Meetings:

The Consultant and Sub-Consultant(s) shall attend the pre-construction meeting and all construction job meetings during the construction phase of the project. The Consultant shall chair the meeting, transcribe and distribute the job-meeting minutes for every job meeting to all attendees and to those persons specified to be on the distribution list by the Project Manager. The Agenda for the meeting shall include, but not be limited to the items identified in the Procedures for Architects and Engineers Manual, Section 10.3.1, entitled "Agenda."

Also, the Consultant is responsible for the preparation and distribution of minutes within three (3) working days of the meeting. The format to be used for the minutes shall comply with those identified in the "Procedures for Architects and Engineers Manual," Section 10.3.4, entitled, "Format of Minutes." All meeting minutes are to have an "action" column indicating the party that is responsible for the action indicated and a deadline to accomplish the assigned task. These tasks must be reviewed at each job progress meeting until it is completed and the completion date of each task shall be noted in the minutes of the meeting following the task completion.

2. Schedules:

The Consultant; with the input from the Client Agency Representative and Project Manager, shall review and recommend approval of the project construction schedule prepared by the Contractor. The schedule shall identify all necessary start and completion dates of construction, construction activities, submittal process activities, material deliveries and other milestones required to give a complete review of the project.

The Consultant shall record any schedule delays, the party responsible for the delay, the schedule activity affected, and the original and new date for reference.

The Consultant shall ensure that the Contractor provides a two (2) week "look ahead" construction schedule based upon the current monthly updated schedule as approved at the bi-weekly job meetings and that identifies the daily planned activities for that period. This Contractor requirement must also be included in Division 1 of the specification for reference.

3. Submittal Log:

Based on the Submittal Schedule in Division 1 of the specifications, the Consultant shall develop and implement a submittal log that includes all of the required project submittals as identified in the general conditions and technical specifications. The submittal log shall be provided to the contractor at the pre-construction meeting. The dates of submission shall be determined and approved by all affected parties during the pre-construction meeting.

Examples of the submissions to be reviewed and approved by the Consultant and Sub-Consultant (if required) include: project schedule, schedule of values, shop drawings, equipment and material catalog cuts, spec sheets, product data sheets, MSDS material safety data sheets, specification procedures, color charts, material samples, mock-ups, etc. The submittal review process must be conducted at each job progress meeting and shall include the Consultant, Sub-Consultant, Contractor, Project Manager, and designated representatives of the Client Agency.

The Consultant shall provide an updated submittal log at each job meeting that highlights the status of all required submissions.

F. CONSTRUCTION SITE ADMINISTRATION SERVICES

The Consultant and Sub-Consultant(s) shall provide construction site administration services during the duration of the project. The Consultant and Sub-Consultant(s) do not necessarily have to be on site concurrently if there are no critical activities taking place that require the Sub-Consultant's participation.

The services required shall include, but not be limited to; field observations sufficient to verify the quality and progress of construction work, conformance and compliance with the contract documents, and to attend/chair meetings as may be required by the Project Manager to resolve special issues.

Consultant and Sub-Consultant(s) shall conduct weekly site inspection/field observation visits. Site inspection/field observation visits may be conducted in conjunction with regularly scheduled bi-weekly construction job meetings, depending on the progress of work, for weeks that construction job meetings are scheduled. The Consultant and its Sub-Consultant(s) shall submit a field observation report for each site inspection to the Project Manager within three (3) calendar days of the site visit. Also, they shall conduct inspections during major construction activities including, but not limited to the following examples: concrete pours, steel and truss installations, code inspections, final testing of systems, achievement of each major milestone required on the construction schedule, and requests from the Project Manager. The assignment of a full time on-site Sub-Consultant does not relieve the Consultant of its site visit obligation.

The Consultant shall refer to Section XIV. Contract Deliverables of this Scope of Work subsection entitled "Construction Phase" to determine the extent of services and deliverables required during this phase of the project.

G. SUB-CONSULTANT PARTICIPATION

It is the responsibility of the Consultant to ensure that they have provided adequate hours and/or time allotted in its technical proposal so that Sub-Consultants may participate in all appropriate phases and activities of this project or whenever requested by the Project Manager. This includes the various design meetings and construction job meetings, site visits, and close-out

activities described in this Scope of Work. Field observation reports and/or meeting minutes are required to be submitted to the Project Manager within three (3) calendar days of the site visit or meeting. All costs associated with such services shall be included in the base bid of the Consultant's fee proposal.

H. ROOF MONITOR RESPONSIBILITIES

The Consultant shall provide a full time roof monitor during the installation of the roof system on the building. The responsibilities of the roof monitor shall include, but not be limited to the following items:

1. Roof Monitor Inspections:

The Consultant shall have in-house capabilities or a Sub-Consultant pre-qualified with DPMC in the P028 Roofing Inspection Specialty Discipline. The costs for the services provided by the roof monitor shall be included in their fee proposal line item entitled "**Roof Monitor Allowance**", refer to paragraph XI.B.

The Roof Monitor must continuously inspect and monitor the Contractor's work on site and file a daily DPMC 605 Roofing Inspector's Check List Form to ensure compliance with the contract documents. Photographs shall be included for reference. The report shall include weather conditions, number of workers, and the amount of roof removed and installed together with comments on each phase of work. Comments shall provide descriptions and information on project mobilization, material delivery, removal of existing roof system, preparation of the existing deck, installation of the new underlayment and/or insulation, sealant and adhesive applications, flashing, etc. This form shall be submitted in electronic format to the Project Team by the close of business on each day of work on site.

2. Inclement Weather:

The Consultant, in conjunction with the Roof Monitor, shall anticipate time losses due to seasonal inclement weather conditions such as rain, wind and low ambient temperatures and include these hours in the base bid of the fee proposal.

On the first day of inclement weather, the Roof Monitor will be entitled to four hours to visit the site and inspect the roofing system for potential roof leaks or damage. Additional time spent on the site during inclement weather will not be reimbursed unless directed by the Project Manager.

3. Unsatisfactory Work:

If the Roof Monitor determines that the roof Contractor is installing the roofing system improperly, he shall notify the Contractor to stop all work until the Consultant is notified and

inspects the work for design conformity. If appropriate, provisions shall be made to seal the roof work area until the Consultant arrives and the installation issues are resolved.

If the Consultant determines that the installation does not meet the intentions of the design or indicates poor workmanship, he shall notify the Project Manager that he recommends the questionable roofing installation be removed and replaced properly. The Project Manager shall then notify the Contractor verbally to take the recommended action and shall follow up with a written directive indicating the time and date the Contractor was notified.

4. Meetings:

The Consultant and Roof Monitor shall both attend the pre-construction conference and all periodic job progress meetings during the construction phase of the project.

I. EMERGENCY REPAIRS

The Consultant must include information in the contract documents that will address the Contractor's responsibility for repairs to the roofing system during the construction phase of the project. The information shall include, but not be limited to the following:

Stipulate in the contract documents that the Contractor shall perform all inspections and emergency repairs to all defects or leaks in the roofing system during construction within four (4) hours of receipt of notice from the owner. Repairs shall include all labor, roofing materials, flashing, etc. When weather permits, all temporary repairs shall be redone and the roof restored to the standard of the original installation.

J. DRAWINGS

1. Shop Drawings:

Each Contractor shall review the specifications and determine the numbers and nature of each shop drawing submittal. Five (5) sets of the documents shall be submitted with reference made to the appropriate section of the specification. The Consultant shall review the Contractor's shop drawing submissions for conformity with the construction documents within seven (7) calendar days of receipt. The Consultant shall return each shop drawing submittal stamped with the appropriate action, i.e. "Approved", "Approved as Noted", "Approved as Noted Resubmit for Records", "Rejected", etc. The Consultant shall provide an updated shop drawing log at each job meeting that highlights the status of all required shop drawings.

2. As-Built & Record Set Drawings:

The Contractor(s) shall keep the contract drawings up-to-date at all times during construction and upon completion of the project, submit AS-BUILT drawings to the Consultant with the

Contractor(s) certification as to the accuracy of the information prior to final payment. All AS-BUILT drawings submitted shall be entitled AS-BUILT above the title block and dated.

The Consultant shall review the Contractor(s)' AS-BUILT drawings at each job progress meeting to ensure that they are up-to-date. Any deficiencies shall be noted in the progress meeting minutes.

The Consultant shall acknowledge acceptance of the AS-BUILT drawings by signing a transmittal indicating they have reviewed them and that they reflect the AS-BUILT conditions as they exist.

Upon receipt of the AS-BUILT drawings from the Contractor(s), the Consultant shall obtain the original reproducible drawings from DPMC and transfer the AS-BUILT conditions to the original full sized signed reproducible drawings to reflect RECORD conditions within fourteen (14) calendar days of receipt of the AS-BUILT information.

The Consultant shall note the following statement on the original RECORD-SET drawings. "The AS-BUILT information added to this drawing(s) has been supplied by the Contractor(s). The Architect/Engineer does not assume the responsibility for its accuracy other than conformity with the design concept and general adequacy of the AS-BUILT information to the best of the Architect's/Engineer's knowledge."

Upon completion, The Consultant shall deliver the RECORD-SET original reproducible drawings to DPMC who will acknowledge receipt in writing. This hard copy set of drawings and two (2) sets of current release AUTO CAD discs shall be submitted to DPMC. The discs shall contain all AS-BUILT drawings in both ".dwg" (native file format for AUTO CAD) and ".pdf" (*Adobe* portable document format) file formats.

K. CONSTRUCTION DEFICIENCY LIST

The Consultant shall prepare, maintain and continuously distribute an on-going deficiency list to the Contractor, Project Manager, and Client Agency Representative during the construction phase of the project. This list shall be separate correspondence from the field observation reports and shall not be considered as a punch list.

L. INSPECTIONS: SUBSTANTIAL & FINAL COMPLETION

The Consultant and Sub-Consultant(s) accompanied by the Project Manager, Code Inspection Group, Client Agency Representative and Contractor shall conduct site inspections to determine the dates of substantial and final completion. The Project Manager will issue the only recognized official notice of substantial completion. The Consultant shall prepare and distribute the coordinated punch list, written warranties and other related DPMC forms and documents,

supplied by the Contractor, to the Project Manager for review and certification of final contract acceptance.

If applicable, the punch list shall include a list of attic stock and spare parts.

M. CLOSE-OUT DOCUMENTS

The Consultant shall review all project close-out documents as submitted by the Contractors to ensure that they comply with the requirements listed in the “Procedure for Architects and Engineers’ Manual.” The Consultant shall forward the package to the Project Manager within fourteen (14) calendar days from the date the Certificate of Occupancy/Certificate of Approval is issued. The Consultant shall also submit a letter certifying that the project was completed in accordance with the contract documents, etc.

N. CLOSE-OUT ACTIVITY TIME

The Consultant shall provide all activities and deliverables associated with the “Close-Out Phase” of this project as part of its Lump Sum base bid. The Consultant and/or Sub-Consultant(s) may not use this time for additional job meetings or extended administrative services during the Construction Phase of the project.

O. TESTING, TRAINING, MANUALS AND ATTIC STOCK

The Consultant shall ensure that all equipment testing, training sessions and equipment manuals required for this project comply with the requirements identified below.

1. Testing:

All equipment and product testing conducted during the course of construction is the responsibility of the Contractor. However, the Consultant shall ensure the testing procedures comply with manufacturers recommendations. The Consultant shall review the final test reports and provide a written recommendation of the acceptance/rejection of the material, products or equipment tested within seven (7) calendar days of receipt of the report.

2. Training:

The Consultant shall include in the specification that the Contractor shall schedule and coordinate all equipment training with the Project Manager and Client Agency representatives. It shall state that the Contractor shall submit the Operation and Maintenance (O&M) manuals, training plan contents, and training durations to the Consultant, Project Manager and Client Agency Representative for review and approval prior to the training session.

The Consultant shall ensure that the training session is video recorded by the Contractor. A copy of the recording shall be transmitted to the Project Manager on compact disk who will forward the material to the Client Agency for future reference.

All costs associated with the training sessions shall be borne by the Contractor installing the equipment. A signed letter shall be prepared stating when the training was completed and must be accompanied with the training session sign-in sheet as part of the project close-out package.

3. Operation & Maintenance Manuals:

The Consultant shall coordinate and review the preparation and issuance of the equipment manuals provided by the Contractor(s) ensuring that they contain the operating procedures, maintenance procedures and frequency, cut sheets, parts lists, warranties, guarantees, and detailed drawings for all equipment installed at the facility.

A troubleshooting guide shall be included that lists problems that may arise, possible causes with solutions, and criteria for deciding when equipment shall be repaired and when it must be replaced.

Include a list of the manufacturer's recommended spare parts for all equipment being supplied for this project.

A list of names, addresses and telephone numbers of the Contractors involved in the installations and firms capable of performing services for each mechanical item shall be included. The content of the manuals shall be reviewed and approved by the Project Manager and Client Agency Representative.

The Consultant shall include in the specification that the Contractor must provide a minimum of ten (10) "throwaway" copies of the manual for use at the training seminar and seven (7) hardbound copies as part of the project close-out package.

4. Attic Stock:

The Consultant shall determine and recommend whether "attic stock" should be included for all aspects of the project. If required, the Consultant shall specify attic stock items to be included in the project.

Prior to project close-out, the Consultant must prepare a comprehensive listing of all items for delivery by the Contractor to the Owner and in accordance with the appropriate specification/plan section. Items shall include, but not be limited to: training sessions, O&M manuals, as-built drawings, itemized attic stock requirements, and manufacturer guarantees/warranties.

P. CHANGE ORDERS

The Consultant shall review and process all change orders in accordance with the contract documents and procedures described below.

1. Consultant:

The Consultant shall prepare a detailed request for Change Order including a detailed description of the change(s) along with appropriate drawings, specifications, and related documentation and submit the information to the Contractor for the change order request submission. This will require the use of the current DPMC 9b form.

2. Contractor:

The Contractor shall submit a DPMC 9b Change Order Request form to the Project Manager within seven (7) calendar days after receiving the Change Order from the Consultant. The document shall identify the changed work in a manner that will allow a clear understanding of the necessity for the change. Copies of the original design drawings, sketches, etc. and specification pages shall be highlighted to clarify and show entitlement to the Change Order.

Copies shall be provided of job minutes or correspondence with all relative information highlighted to show the origin of the Change Order. Supplementary drawings from the Consultant shall be included if applicable that indicate the manner to be used to complete the changed work. A detailed breakdown of all costs associated with the change, i.e. material, labor, equipment, overhead, Sub-Contractor work, profit and bond, and certification of increased bond shall be provided.

If the Change Order will impact the time of the project, the Contractor shall include a request for an extension of time. This request shall include a copy of the original approved project schedule and a proposed revised schedule that reflects the impact on the project completion date. Documentation to account for the added time requested shall be included to support entitlement of the request such as additional work, weather, other Contractors, etc. This documentation shall contain dates, weather data and all other relative information.

3. Recommendation for Approval:

The Consultant shall evaluate the reason for the change in work and provide a detailed written recommendation for approval or disapproval of the Change Order Request including backup documentation of costs in CSI format and all other considerations to substantiate that decision.

4. Code Review:

The Consultant shall determine if the Change Order request will require Code review and shall submit six (6) sets of signed and sealed modified drawings and specifications to the DPMC Plan & Code Review Unit for approval or the Department of Community Affairs (DCA), if required. The Consultant must also determine and produce a permit amendment request if required.

5. Cost Estimate:

The Consultant shall provide a detailed cost estimate of the proposed Change Order Request, as submitted by the Contractor, in CSI format (latest edition) for all appropriate divisions and sub-divisions using a recognized estimating formula. The estimate shall then be compared with that of the Contractor's estimate. If any line item in the Consultant's estimate is lower than the corresponding line item in the Contractor's estimate, the Consultant in conjunction with the Project Manager is to contact the Contractor by telephone and negotiate the cost differences. The Consultant shall document the negotiated agreement on the Change Order Request form. If the Contractor's total dollar value changes based on the negotiations, the Consultant shall identify the changes on the Change Order Request form accordingly.

When recommending approval or disapproval of the change order, the Consultant shall be required to prepare and process a Change Order package that contains at a minimum the following documents:

- DPMC 9b Change Order Request
- DPMC 10 Consultant's Evaluation of Contractor's Change Order Request
- Consultant's Independent Detailed Cost Estimate
- Notes of Negotiations

6. Time Extension:

When a Change Order Request is submitted with both cost and time factors, the Consultant's independent cost estimate is to take into consideration time factors associated with the changed work. The Consultant is to compare its time element with that of the Contractor's time request and if there is a significant difference, the Consultant in conjunction with the Project Manager is to contact the Contractor by telephone and negotiate the difference.

When a Change Order Request is submitted for time only, the Consultant is to do an independent evaluation of the time extension request using a recognized scheduling formula.

Requests for extension of contract time must be done in accordance with the General Conditions Article 10.1 "Changes in the Work".

7. Submission:

The Consultant shall complete all of the DPMC Change Order Request forms provided and submit a completed package to the Project Manager with all appropriate backup documentation within seven (7) calendar days from receipt of the Contractor’s change order request. The Consultant shall resubmit the package at no cost to the State if the change order package contents are deemed insufficient by the Project Manager.

8. Meetings:

The Consultant shall attend and actively participate at all administrative hearings or settlement conferences as may be called by Project Manager in connection with such Change Orders and provide minutes of those meetings to the Project Manager for distribution.

9. Consultant Fee:

All costs associated with the potential Contractor Change Order Requests shall be anticipated by the Consultant and included in the base bid of its fee proposal.

If the Client Agency Representative requests a scope change; and it is approved by the Project Manager, the Consultant may be entitled to be reimbursed through an amendment and in accordance with the requirements stated in paragraph 10.01 of this Scope of Work.

IX. PERMITS & APPROVALS

A. NJ UNIFORM CONSTRUCTION CODE PERMIT

The project construction documents must comply with the latest adopted edition of the NJ Uniform Construction Code (NJUCC).

The latest NJUCC Adopted Codes and Standards can be found at:

<http://www.state.nj.us/dca/divisions/codes/codreg/>

1. NJ Uniform Construction Code (NJUCC) Plan Review

Consultant shall estimate the cost of the NJUCC Plan Review by DCA and include that amount in their fee proposal line item entitled “**Plan Review and Permit Fee Allowance**”, refer to paragraph XI.A.

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Upon approval of the Final Design Phase Submission by DPMC, the Consultant shall submit the construction documents to the Department of Community Affairs (DCA), Bureau of Construction Project Review to secure a complete plan release.

Procedures for submission to the DCA Plan Review Unit can be found at:

https://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_app_guide.pdf

Consultant shall complete the “Project Review Application” and include the following on Block 5 as the “Owner’s Designated Agent Name”:

Joyce Spitale, DPMC
PO Box 235
Trenton, NJ 08625-0235
Joyce.Spitale@treas.nj.gov 609-943-5193

The Consultant shall complete the NJUCC “Plan Review Fee Schedule”, determine the fee due and pay the NJUCC Plan Review fees, refer to Paragraph XI.A.

The NJUCC “Plan Review Fee Schedule” can be found at:

http://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_fees.pdf

2. NJ Uniform Construction Code Permit

Upon receipt of a complete plan release from the DCA Bureau of Construction Project Review, the Consultant shall complete the NJUCC permit application and all applicable technical sub-code sections. The “Agent Section” of the application and certification section of the building sub-code section shall be signed. These documents, with **six (6) sets of DCA approved, signed and sealed construction documents** shall be forwarded to the DPMC Project Manager.

The Consultant may obtain copies of all NJUCC permit applications at the following website:

<http://www.state.nj.us/dca/divisions/codes/forms/>

All other required project permits shall be obtained and paid for by the Consultant in accordance with the procedures described in Paragraph IX.B.

3. Prior Approval Certification Letters:

The issuance of a construction permit for this project may be contingent upon acquiring various “prior approvals” as defined by N.J.A.C. 5:23-1.4. It is the Consultant’s responsibility to determine which prior approvals, if any, are required. The Consultant shall submit a general

certification letter to the DPMC Plan & Code Review Unit Manager during the Permit Phase of this project that certifies all required prior approvals have been obtained.

In addition to the general certification letter discussed above, the following specific prior approval certification letters, where applicable, shall be submitted by the Consultant to the DPMC Plan & Code Review Unit Manager: Soil Erosion & Sediment Control, Water & Sewer Treatment Works Approval, Coastal Areas Facilities Review, Compliance of Underground Storage Tank Systems with N.J.A.C. 7:14B, Pinelands Commission, Highlands Council, Well Construction and Maintenance; Sealing of Abandoned Wells with N.J.A.C. 7:9D, Certification that all utilities have been disconnected from structures to be demolished, Board of Health Approval for Potable Water Wells, Health Department Approval for Septic Systems. It shall be noted that in accordance with N.J.A.C. 5:23-2.15(a)5, a permit cannot be issued until the letter(s) of certification is received.

4. Multi-building or Multi-site Permits:

A project that involves many buildings and/or sites requires that a separate permit shall be issued for each building or site. The Consultant must determine the construction cost estimate for *each* building and/or site location and submit that amount where indicated on the permit application.

5. Special Inspections:

In accordance with the requirements of the New Jersey Uniform Construction Code N.J.A.C. 5:23-2.20(b), Bulletin 03-5 and Chapter 17 of the International Building Code, the Consultant shall be responsible for the coordination of all special inspections during the construction phase of the project.

Bulletin 03-5 can be found at:

http://www.state.nj.us/dca/divisions/codes/publications/pdf_bulletins/b_03_5.pdf

a. Definition:

Special inspections are defined as an independent verification by a certified Special Inspector for **Class I buildings and smoke control systems in any class building**. The special inspector is to be independent from the Contractor and responsible to the Consultant so that there is no possible conflict of interest.

Special inspectors shall be certified in accordance with the requirements in the New Jersey Uniform Construction Code.

b. Responsibilities:

The Consultant shall submit with the permit application, a list of special inspections and the agencies or special inspectors that will be responsible to carry out the inspections required for the project. The list shall be a separate document, on letter head, signed and sealed.

B. OTHER REGULATORY AGENCY PERMITS, CERTIFICATES AND APPROVALS

The Consultant shall identify and obtain all other State Regulatory Agency permits, certificates, and approvals that will govern and affect the work described in this Scope of Work. An itemized list of these permits, certificates, and approvals shall be included with the Consultant’s Technical Proposal and the total amount of the application fees should be entered in the Fee Proposal line item entitled, **“Permit Fee Allowance.”**

The Consultant may refer to the Division of Property Management and Construction “Procedures for Architects and Engineers Manual”, Section 6.4.8, which presents a compendium of State permits, certificates, and approvals that may be required for this project.

The Consultant shall determine the appropriate phase of the project to submit the permit application(s) in order to meet the approved project milestone dates.

Where reference to an established industry standard is made, it shall be understood to mean the most recent edition of the standard unless otherwise noted. If an industry standard is found to be revoked, or should the standard have undergone substantial change or revision from the time that the Scope of Work was developed, the Consultant shall comply with the most recent edition of the standard.

C. STATE INSURANCE APPROVAL

If requested by the using agency or DPMC design management, plans and specifications shall be submitted to the State insurance underwriter for review and comment. The plans shall be sent directly by the consultant and a copy of the comments, if any, shall be provided to the DPMC Plan & Code Review Unit for its information. The Consultant shall review all the comments and, with agreement of the Project Team, modify the documents while adhering to the project’s SOW requirements, State code requirements, schedule, budget, and Consultant fee.

D. PUBLIC EMPLOYEES OCCUPATIONAL SAFETY & HEALTH PROGRAM

A paragraph shall be included in the design documents, if applicable to this project that states:

The Contractor shall comply with all the requirements stipulated in the Public Employees Occupational Safety & Health Program (PEOSHA) document, paragraph 12:100-13.5 entitled “Air quality during renovation and remodeling”. The Contractor shall submit a plan demonstrating the measures to be utilized to confine the dust, debris, and air contaminants in the renovation or construction area of the project site to the Project Team prior to the start of construction.

The link to the document is:

<http://www.nj.gov/health/workplacehealthandsafety/peosh/peosh-health-standards/iaq.shtml>

E. PERMIT MEETINGS

The Consultant shall attend and chair all meetings with Permitting Agencies necessary to explain and obtain the required permits.

F. MANDATORY NOTIFICATIONS

The Consultant shall include language in Division 1 of the specification that states the Contractor shall assure compliance with the New Jersey “One Call” Program (1-800-272-1000) if any excavation is to occur at the project site.

The One Call Program is known as the “New Jersey Underground Facility Protection Act”, refer to N.J.A.C. 14:2.

G. CONSULTANT FEE

The Consultant shall determine the efforts required to complete and submit all permit applications, obtain and prepare supporting documentation, attend meetings, etc., and include the total cost in the base bid of its fee proposal under the “Permit Phase”.

X. GENERAL REQUIREMENTS

A. SCOPE CHANGES

The Consultant must request any changes to this Scope of Work in writing. An approved DPMC 9c Consultant Amendment Request form reflecting authorized scope changes must be received from the Consultant prior to undertaking any additional work. The DPMC 9c form must be approved and signed by the Director of DPMC and written authorization issued from the Project

Manager prior to any work being performed by the Consultant. Any work performed without the executed DPMC 9c form is done at the Consultant’s own financial risk.

B. ERRORS AND OMISSIONS

The errors and omissions curve and the corresponding sections of the “Procedures for Architects and Engineers Manual” are eliminated. All claims for errors and omissions will be pursued by the State on an individual basis. The State will review each error or omission with the Consultant and determine the actual amount of damages, if any, resulting from each negligent act, error or omission.

C. ENERGY INCENTIVE PROGRAM

The Consultant shall review the programs described on the “New Jersey’s Clean Energy Program” website at: <http://www.njcleanenergy.com> as well as New Jersey electric and gas utility websites to determine if any proposed upgrades to the mechanical and/or electrical equipment and systems for this project qualify for “New Jersey Clean Energy Program” or utility approved rebates and incentives.

The Consultant shall be responsible to complete the appropriate registration forms and applications, provide any applicable worksheets, manufacturer’s specification sheets, calculations, attend meetings, and participate in all activities with designated representatives of the programs and utility companies to obtain the entitled financial incentives and rebates for this project. All costs associated with this work shall be estimated by the Consultant and the amount included in the base bid of its fee proposal.

XI. ALLOWANCES

A. PLAN REVIEW AND PERMIT FEE ALLOWANCE

The Consultant shall obtain and pay for all of the project permits in accordance with the guidelines identified below.

1. Permits:

The Consultant shall determine the various permits, certificates, and approvals required to complete this project.

2. Permit Costs:

The Consultant shall estimate the application fee costs for all of the required plan reviews, permits, certificates, and approvals (excluding the NJ Uniform Construction Code permit) and include that amount in their fee proposal line item entitled “**Plan Review and Permit Fee Allowance**”, refer to Paragraph IX.A. A breakdown of each permit and application fee shall be attached to the fee proposal for reference.

NOTE: The NJ Uniform Construction Code permit is excluded since it will be paid by the State.

3. Applications:

The Consultant shall complete and submit all permit applications to the appropriate permitting authorities and the costs shall be paid from the Consultant’s permit fee allowance. A copy of the application(s) and the original permit(s) obtained by the Consultant shall be given to the DPMC Project Manager for distribution during construction.

4. Consultant Fee:

The Consultant shall determine what is required to complete and submit the permit applications, obtain supporting documentation, attend meetings, etc., and include the total cost in the base bid of its fee proposal under the “Permit Phase” column.

Any funds remaining in the permit allowance will be returned to the State at the close of the project.

B. ROOF MONITOR ALLOWANCE

The Consultant shall provide a full time roof monitor pre-qualified with DPMC in the P028 Roofing Inspection Specialty Discipline during the installation of the roof system on the building. See section VIII, paragraph H of this Scope of Work for a description of services to be provided by a roof monitor.

The costs for the services provided by the roof monitor shall be included in the “**Roof Monitor Allowance**” of their fee proposal. A cost breakdown sheet shall accompany the fee proposal that identifies all costs associated with the Roof Monitoring services to be provided.

Any funds remaining in the Allowance shall be returned to the State at the end of the project.

XII. SUBMITTAL REQUIREMENTS

A. CONTRACT DELIVERABLES

All submissions shall include the Contract Deliverables identified in Section XIV of this Scope of Work and described in the DPMC Procedures for Architects and Engineers Manual.

B. CATALOG CUTS

The Consultant shall provide catalog cuts as required by the DPMC Plan & Code Review Unit during the design document review submissions. Examples of catalog cuts include, but are not limited to: mechanical equipment, hardware devices, plumbing fixtures, fire suppression and alarm components, specialized building materials, electrical devices, etc.

C. PROJECT DOCUMENT BOOKLET

The Consultant shall submit all of the required Contract Deliverables to the Project Manager at the completion of each phase of the project. All reports, meeting minutes, plan review comments, project schedule, cost estimate in CSI format (latest edition), correspondence, calculations, and other appropriate items identified on the Submission Checklist form provided in the A/E Manual shall be presented in an 8½” x 11” bound “booklet” format.

D. DESIGN DOCUMENT CHANGES

Any corrections, additions, or omissions made to the submitted drawings and specifications at the Permit Phase of the project must be submitted to DPMC Plan & Code Review Unit as a complete document. Corrected pages or drawings may not be submitted separately unless the Consultant inserts the changed page or drawing in the original documents. No Addendums or Bulletins will be accepted as a substitution to the original specification page or drawing.

E. SINGLE-PRIME CONTRACT

All references to “separate contracts” in the Procedures for Architects and Engineers Manual, Chapter 8, shall be deleted since this project will be advertised as a “Single Bid” (Lump Sum All Trades) contract. The single prime Contractor will be responsible for all work identified in the drawings and specifications.

The drawings shall have the required prefix designations and the specification sections shall have the color codes as specified for each trade in the DPMC Procedure for Architects and Engineers Manual.

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The Consultant must still develop the Construction Cost Estimate (CCE) for each trade and the amount shall be included on the DPMC-38 Project Cost Analysis form where indicated. This document shall be submitted at each design phase of the project and updated immediately prior to the advertisement to bid.

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XIII. SOW SIGNATURE APPROVAL SHEET

This Scope of Work shall not be considered a valid document unless all signatures appear in each designated area below.

The Client Agency approval signature on this page indicates that they have reviewed the design criteria and construction schedule described in this project Scope of Work and verifies that the work will not conflict with the existing or future construction activities of other projects at the site.

SOW APPROVED BY: *James Wright* 6/28/2022
JAMES WRIGHT, MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: *Michael Bull Jr* 7/15/22
MICHAEL BULL, PROJECT MANAGER DATE
MOTOR VEHICLE COMMISSION

SOW APPROVED BY: *Ronald W Kraemer* 7/19/2022
RONALD KRAEMER, PROJECT MANAGER DATE
DPMC PROJECT MANAGEMENT GROUP

SOW APPROVED BY: *Richard S Flodmand* 7/20/22
RICHARD FLODMAND, DEPUTY DIRECTOR DATE
DIV PROPERTY MGT & CONSTRUCTION

XIV. CONTRACT DELIVERABLES

The following is a listing of Contract Deliverables that are required at the completion of each phase of this project. The Consultant shall refer to the DPMC publication entitled, "Procedures for Architects and Engineers," Volumes I and II, 2nd Edition, dated January, 1991 to obtain a more detailed description of the deliverables required for each item listed below.

The numbering system used in this "Contract Deliverables" section of the scope of work corresponds to the numbering system used in the "Procedures for Architects and Engineers" manual and some may have been deleted if they do not apply to this project.

DESIGN DEVELOPMENT PHASE: 50% Complete Design Documents (Minimum)

- 7.1 Project Schedule (Update Bar Chart Schedule)**
- 7.2 Meetings & Minutes (Minutes within seven (7) calendar days of meeting)**
- 7.3 Correspondence**
- 7.4 Submission Requirements**
 - 7.4.1 A/E Statement of Site Visit, As-Built Drawing Verification (if available)
 - 7.4.2 Space Analysis & Program Requirements
 - 7.4.3 Special Features Description: special structural features, etc.
 - 7.4.4 Site Evaluation
 - 7.4.8 Regulatory Agency Approvals
 - 7.4.10 Drawings: 6 sets
 - Cover Sheet (See A/E Manual for format)
 - Demolition Plan
 - HVAC Drawings, Heating & Cooling Equipment Schedules
 - Sections/Details
 - Electrical Drawings, Riser Diagram, Panel Schedules, Service Size
 - 7.4.11 Specifications: 6 sets (See A/E Manual for format, include Division 1 and edit to describe the administrative and general requirements of the project)
 - 7.4.12 Current Working Estimate in CSI Format & Cost Analysis 38 Form
 - 7.4.13 Bar Chart of Design and Construction Schedule
 - 7.4.14 Oral Presentation of Submission to Project Team
 - 7.4.15 SOW Compliance Statement
 - 7.4.16 This Submission Checklist (See A/E Manual, Figure 6.4.16 for format)
 - 7.4.17 Deliverables Submission in Booklet Form: 7 sets

7.5 Approval

7.5.1 Respond to Submission Comments

7.6 Submission Forms

Figure 7.4.12 Current Working Estimate/Cost Analysis

Figure 7.4.16 Submission Checklist

FINAL DESIGN PHASE 100% Complete Construction Documents

This Final Design Phase may require more than one submission based on the technical quality and code conformance of the design documents.

8.1 Schedule (Update Bar Chart Schedule)

8.2 Meeting & Minutes (Minutes within seven (7) calendar days of meeting)

8.3 Correspondence

8.4 Submission Requirements

8.4.1 A/E Statement of Site Visit

8.4.2 Space Analysis

8.4.3 Special Features Description, Communication/Security/Fire/Smoke/Exhaust)

8.4.4 Site Evaluation

8.4.8 Regulatory Agency Approvals (Include itemized list specific to this project)

8.4.10 Drawings: 6 sets

8.4.11 Specifications: 6 sets

8.4.12 Current Working Estimate in CSI Format & Cost Analysis 38 Form

8.4.13 Bar Chart of Design and Construction Schedule

8.4.14 Oral Presentation of this Submission to Project Team

8.4.15 Plan Review/SOW Compliance Statement

8.4.16 This Submission Checklist

8.4.17 Deliverables Submission in Booklet Form: 7 sets

8.5 Approvals

8.5.1 Respond to Submission Comments

PERMIT APPLICATION PHASE

This Permit Application Phase should not include any additional design issues. Design documents shall be 100% complete at the Final Design Phase.

8.6 Permit Application Submission Requirements

- 8.6.1 - 8.6.7: If all of the deliverables of these sections have been previously submitted to DPMC and approved there are no further deliverables due at this time
- 8.6.8 Regulatory Agency Approvals
 - (a) UCC Permit Application & Technical Sub-codes completed by A/E
- 8.6.9 Utility Availability Confirmation
- 8.6.10 Signed and Sealed Drawings: 6 sets
- 8.6.11 Signed and Sealed Specifications: 6 sets
- 8.6.12 Current Working Estimate/Cost Analysis
- 8.6.13 Bar Chart Schedule
- 8.6.14 Project Presentation (N/A this Project)
- 8.6.15 Plan Review/SOW Compliance Statement
- 8.6.16 Submission Checklist

8.7 Approvals

8.8 Submission Forms

- Figure 8.4.12 Current Working Estimate/Cost Analysis
- Figure 8.4.16 Submission Checklist (Final Review Phase)
- Figure 8.6.12-b Bid Proposal Form (Form DPMC -3)
- Figure 8.6.12-c Notice of Advertising (Form DPMC -31)
- Figure 8.6.16 Submission Checklist (Permit Phase)
- Figure 8.7 Bid Clearance Form (Form DPMC -601)

BIDDING AND CONTRACT AWARD

9.0 Bidding Phase Requirements

- 9.01 Original Drawings signed & sealed by A/E and drawings on compact disk (CD) in *Adobe Portable Document Format (.pdf)*
- 9.02 One Unbound Specification Color Coded per A/E Manual Section 8.4.11 and specifications on compact disk (CD) in *Adobe Portable Document Format (.pdf)*
- 9.03 Bid Documents Checklist
- 9.04 Bid Proposal Form
- 9.05 Notice for Advertising

9.1 Chair Pre-Bid Conference/Mandatory Site Visit

9.2 Prepare Bulletins

9.3 Attend Bid Opening

9.4 Recommendation for Contract Award

9.4.1 Prepare Letter(s) of Recommendation for Award & Cost Analysis

9.5 Attend Post Bid Review Meeting(s)

9.6 Submission Checklist

9.7 Submission Forms

Figure 9.4.1 Cost Analysis

Figure 9.6 Submission Checklist

CONSTRUCTION PHASE

10.1 Site Construction Administration

10.2 Pre-Construction Meeting

10.3 Construction Job Meetings

10.3.1 Agenda: Schedule and Chair Construction Job Meetings

10.3.2 Minutes: Prepare and Distribute Minutes within 3 working days of meeting

10.3.3 Schedules; Approve Contractors' Schedule & Update

10.3.4 Minutes Format: Prepare Job Meeting Minutes in approved format, figure 10.3.4-a

10.4 Correspondence

10.5 Prepare and Deliver Conformed Drawings

10.7 Approve Contractors Invoicing and Payment Process

10.8 Approve Contractors 12/13 Form for Subs, Samples and Materials

10.10 Approve Test Reports

10.11 Approve Shop Drawings

10.12 Construction Progress Schedule

10.12.1 Construction Progress Schedule

10.13 Review & Recommend or Reject Change Orders

- 10.13.1 Scope Changes
- 10.13.2 Construction Change Orders
- 10.13.3 Field Changes

10.14 Construction Photographs

10.15 Submit Field Observation Reports

10.16 Submission Forms

- Figure 10.3.4-a Job Meeting Format of Minutes
- Figure 10.3.4-b Field Report
- Figure 10.6 DPMC Insurance Form-24
- Figure 10.6-a Unit Schedule Breakdown
- Figure 10.6-b Monthly Estimate for Payment to Contractor DPMC 11-2
- Figure 10.6-c Monthly Estimate for Payment to Contractor DPMC 11-2A
- Figure 10.6-d Invoice DPMC 11
- Figure 10.6-e Prime Contractor Summary of Stored Materials DPMC 11-3
- Figure 10.6-f Agreement & Bill of Sale certificate for Stored Materials DPMC 3A
- Figure 10.7-a Approval Form for Subs, Samples & Materials DPMC 12
- Figure 10.7-b Request for Change Order DPMC 9b
- Figure 10.9 Transmittal Form DPMC 13
- Figure 10.10 Submission Checklist

PROJECT CLOSE-OUT PHASE

11.1 Responsibilities: Plan, Schedule and Execute Close-Out Activities

11.2 Commencement: Initiate Close-Out w/DPMC 20A Project Close-Out Form

11.3 Develop Punch List & Inspection Reports

11.4 Verify Correction of Punch List Items

11.5 Determination of Substantial Completion

11.6 Ensure Issuance of “Temporary Certificate of Occupancy or Approval”

11.7 Initiation of Final Contract Acceptance Process

11.8 Submission of Close-Out Documentation

11.8.1 As-Built & Record Set Drawings, 3 sets AUTOCAD Discs Delivered to DPMC

11.8.2 (a) Maintenance and Operating manuals, Warranties, etc.: 7 sets each

(b) Guarantees

(c) Testing and Balancing Reports

(d) Shop Drawings

(e) Letter of Contract Performance

11.8.3 Final Cost Analysis-Insurance Transfer DPMC 25

11.8.4 This Submission Checklist

11.9 Final Payment

11.9.1 Contractors Final Payment

11.9.2 A/E Invoice and Close-Out Forms for Final Payment

11.10 Final Performance Evaluation of the A/E and the Contractors

11.11 Ensure Issuance of a “Certificate of Occupancy or Approval”

11.12 Submission Forms

Figure 11.2 Project Close-Out Documentation List DPMC 20A

Figure 11.3-a Certificate of Substantial Completion DPMC 20D

Figure 11.3-b Final Acceptance of Consultant Contract DPMC 20C

Figure 11.5 Request for Contract Transition Close-Out DPMC 20X

Figure 11.7 Final Contract Acceptance Form DPMC 20

Figure 11.8.3-a Final Cost Analysis

Figure 11.8.3-b Insurance Transfer Form DPMC 25

Figure 11.8.4 Submission Checklist

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XV. EXHIBITS

The attached exhibits in this section will include a sample project schedule, and any supporting documentation to assist the Consultant in the design of the project such as maps, drawings, photographs, floor plans, studies, reports, etc.

- A. SAMPLE PROJECT SCHEDULE FORMAT
- B. PROJECT SITE LOCATION MAP
- C. CONCORD ENGINEERING REPORT
- D. OFFICE OF HEALTH & SAFETY REPORT

END OF SCOPE OF WORK

February 7, 1997
Rev.: January 29, 2002

Responsible Group Code Table

The codes below are used in the schedule field "GRP" that identifies the group responsible for the activity. The table consists of groups in the Division of Property Management & Construction (DPMC), as well as groups outside of the DPMC that have responsibility for specific activities on a project that could delay the project if not completed in the time specified. For reporting purposes, the groups within the DPMC have been defined to the supervisory level of management (i.e., third level of management, the level below the Associate Director) to identify the "functional group" responsible for the activity.

<u>CODE</u>	<u>DESCRIPTION</u>	<u>REPORTS TO ASSOCIATE DIRECTOR OF:</u>
CM	Contract Management Group	Contract Management
CA	Client Agency	N/A
CSP	Consultant Selection and Prequalification Group	Technical Services
A/E	Architect/Engineer	N/A
PR	Plan Review Group	Technical Services
CP	Construction Procurement	Planning & Administration
CON	Construction Contractor	N/A
FM	Financial Management Group	Planning & Administration
OEU	Office of Energy and Utility Management	N/A
PD	Project Development Group	Planning & Administration

EXHIBIT 'A'

Activity ID	Description	Respon	Weeks
<PROJ>			
Design			
CV3001	Schedule/Conduct Pre-design/Project Kick-Off Mtg.	CM	
CV3020	Prepare Program Phase Submittal	AE	
CV3021	Distribute Program Submittal for Review	CM	
CV3027	Prepare & Submit Project Cost Analysis (DPMC-38)	CM	
CV3022	Review & Approve Program Submittal	CA	
CV3023	Review & Approve Program Submittal	PR	
CV3024	Review & Approve Program Submittal	CM	
CV3025	Consolidate & Return Program Submittal Comments	CM	
CV3030	Prepare Schematic Phase Submittal	AE	
CV3031	Distribute Schematic Submittal for Review	CM	
CV3037	Prepare & Submit Project Cost Analysis (DPMC-38)	CM	
CV3032	Review & Approve Schematic Submittal	CA	
CV3033	Review & Approve Schematic Submittal	PR	
CV3034	Review & Approve Schematic Submittal	CM	
CV3035	Consolidate & Return Schematic Submittal Comment	CM	
CV3040	Prepare Design Development Phase Submittal	AE	
CV3041	Distribute D. D. Submittal for Review	CM	
CV3047	Prepare & Submit Project Cost Analysis (DPMC-38)	CM	
CV3042	Review & Approve Design Development Submittal	CA	
CV3043	Review & Approve Design Development Submittal	PR	
CV3044	Review & Approve Design Development Submittal	CM	
CV3045	Consolidate & Return D.D. Submittal Comments	CM	
CV3050	Prepare Final Design Phase Submittal	AE	
CV2001	Distribute Final Design Submittal for Review	CM	
CV3052	Review & Approve Final Design Submittal	CA	
CV3053	Review & Approve Final Design Submittal	PR	
CV3054	Review Final Design Submittal for Constructability	OCS	

NOTE:
Refer to section "IV Project Schedule" of the
Scope of Work for contract phase durations.

DBCA - TEST

Bureau of Design & Construction Services

Sheet 1 of 3

EXHIBIT 'A'

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Activity ID	Description	Resp	Weeks																		
CV2055	Review & Approve Final Design Submittal	CM																			
CV2056	Consolidate & Return Final Design Comments	CM																			
CV3060	Prepare & Submit Permit Application Documents	AE																			
CV3068	Prepare & Submit Bidding Cost Analysis (DPMC-38)	CM																			
Plan Review-Permit Acquisition																					
CV4001	Review Constr. Documents & Secure UCC Permit	PR																			
CV4010	Provide Funding for Construction Contracts	CA																			
CV4020	Secure Bid Clearance	CM																			
Advertise-Bid-Award																					
CV5001	Advertise Project & Bid Construction Contracts	CP																			
CV5010	Open Construction Bids	CP																			
CV5011	Evaluate Bids & Prep. Recommendation for Award	CM																			
CV5012	Evaluate Bids & Prep. Recommendation for Award	AE																			
CV5014	Complete Recommendation for Award	CP																			
CV5020	Award Construction Contracts/Issue NTP	CP																			
Construction																					
CV6000	Project Construction Start/Issue NTP	CM																			
CV6001	Contract Start/Contract Work (25%) Complete	CON																			
CV6002	Preconstruction Meeting	CM																			
CV6003	Begin Preconstruction Submittals	CON																			
CV6004	Longest Lead Procurement Item Ordered	CON																			
CV6005	Lead Time for Longest Lead Procurement Item	CON																			
CV6006	Prepare & Submit Shop Drawings	CON																			
CV6007	Complete Construction Submittals	CON																			
CV6011	Roughing Work Start	CON																			
CV6012	Perform Roughing Work	CON																			
CV6010	Contract Work (50%+) Complete	CON																			
CV6013	Longest Lead Procurement Item Delivered	CON																			
CV6020	Contract Work (75%) Complete	CON																			

NOTE: Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.
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Bureau of Design & Construction Services

EXHIBIT 'A'

Sheet 2 of 3

DRCA - TEST

Activity ID	Description	Respn	Weeks
CV6014	Roughing Work Complete	CON	
CV6021	Interior Finishes Start	CON	
CV6022	Install Interior Finishes	CON	
CV6030	Contract Work to Substantial Completion	CON	
CV6031	Substantial Completion Declared	CM	
CV6075	Complete Deferred Punch List/Seasonal Activities	CON	
CV6079	Project Construction Complete	CM	
CV6080	Close Out Construction Contracts	CM	
CV6089	Construction Contracts Complete	CM	
CV6090	Close Out A/E Contract	CM	
CV6092	Project Completion Declared	CM	

DBCA - TEST

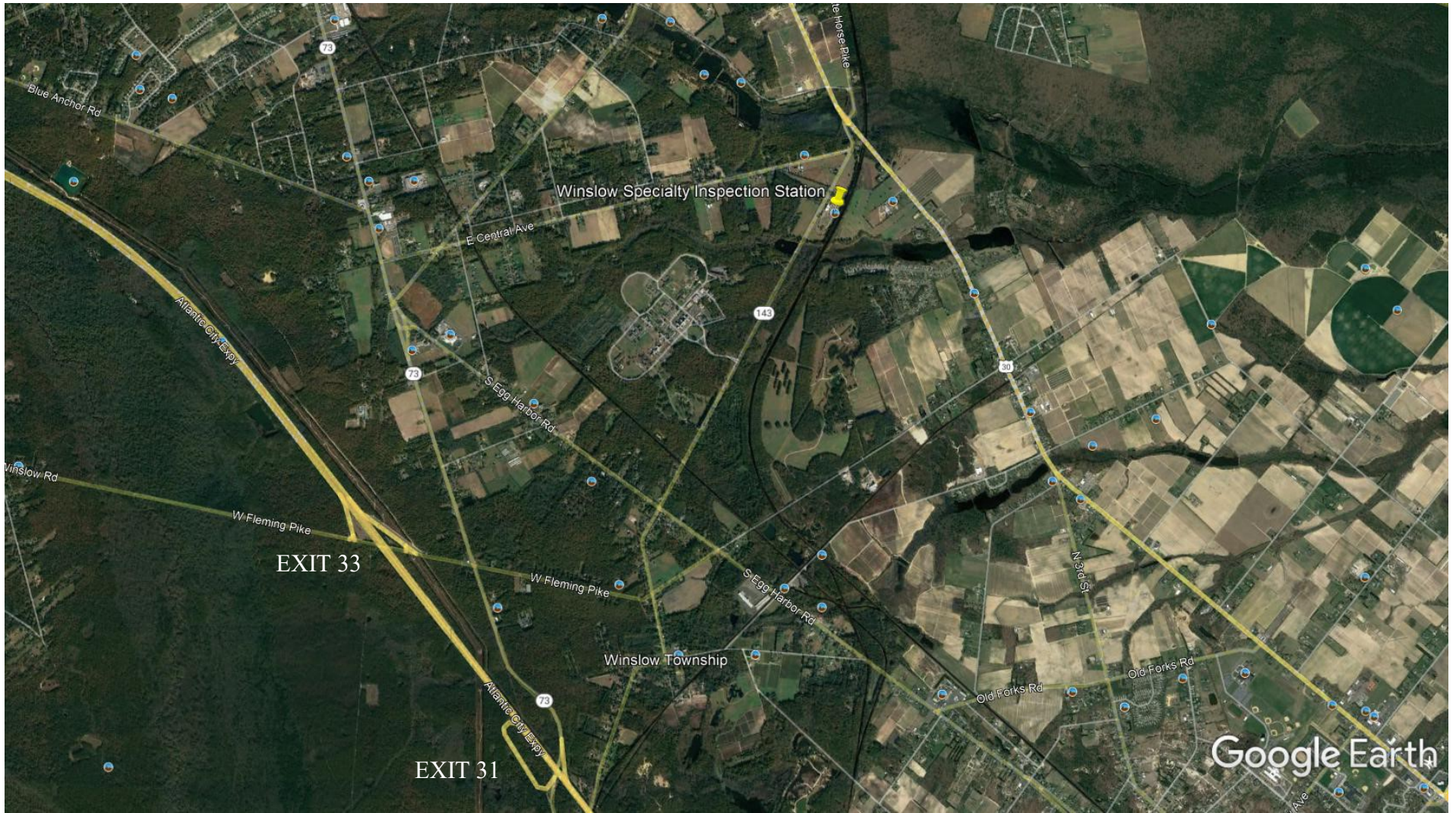
Sheet 3 of 3

Bureau of Design & Construction Services

EXHIBIT 'A'

NOTE:
Refer to section "IV Project Schedule" of the
Scope of Work for contract phase durations.

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Project Site Location Map

Winslow Specialty Inspection Station

EXHIBIT 'B'



STATE OF NEW JERSEY
MOTOR VEHICLE COMMISSION

RETRO-COMMISSIONING OF THE WINSLOW TOWNSHIP MOTOR VEHICLE FACILITY: FINAL RETRO- COMMISSIONING REPORT

PREPARED FOR: NJ MOTOR VEHICLE
COMMISSION

PREPARED BY: CONCORD ENGINEERING



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REPORT ISSUANCE: REV 1 OCTOBER 01, 2012

PROJECT NO.: 4C12207.00

EXHIBIT 'C'

New Jersey Motor Vehicle Commission

DPMC Project Number: J02f0-00

HVAC Retro-Commissioning Report

Winslow Township Motor Vehicle Station

Project Background

The State of New Jersey Department of Treasury Division of Property Management and Construction (DPMC) along with the Motor Vehicle Commission (MVC) presently operate the Winslow Township Motor Vehicle Station. This facility has been responding to various operational issues with the HVAC system involving comfort, indoor environmental quality, maintenance and poor performance of the facility in general. Concord Engineering was hired to work with the DPMC and MVC to evaluate the present installation and operation of the facilities and make recommendations for improvements through HVAC Retro-Commissioning (RCx) services.

Methodology & Narrative

Concord performed the HVAC Retro-Commissioning services in accordance with ASHRAE Guideline 0-2005, "The Commissioning Process" as well as ASHRAE Guideline 1.1-2007, "HVAC&R Technical Requirements for the Commissioning Process."

Investigation Phase:

Typically the RCx process starts with in depth reviews of building documentation. The only available documentation for this facility were service records therefore our understanding of the original design intent was limited.

The process began with a conference call with the MVC operators to discuss expectations of the process as well as scheduling.

Concord conducted multiple site visits at the facility. During these site visits HVAC equipment was functionally tested and inspected. Concord utilized the Building Automation System and field measurement devices to record data. Photographic documentation has been provided in the report highlighting these findings in Appendix D.

This work took place during the month of August 2012 which affected the full review of the cooling and heating system. However most of the issues discovered appear to be related to indoor air quality during cooling mode. We were still able to evaluate operation of equipment in heating mode with respect to the control and schedule of the particular equipment.

EXHIBIT 'C'

During this phase airflow measurements, ductwork layout, space temperatures, and space humidity levels were taken to verify performance and operation of the HVAC system. All readings have been documented and included in Appendix B and C.

Findings and Recommendations

After thorough review of the systems on site we have determined that the HVAC system is not being controlled by the Building Automation System (BAS) which has been incorrect programming and malfunctioning control devices. As a solution to this loss of control the operations staff has to operate the HVAC system manually by putting the motor starter in the hand position when cooling is needed and then turning the motor starter to off when occupants get cold. This appears to be causing the majority of the indoor environment quality issues.

The other major factor in the performance of the systems is that the space usage and floor plan layout has changed over the years by renovations and/or operational changes. The systems do not appear to have been re-engineered accounting for modified heating and cooling loads along with the associated airflows for these spaces. Compounding this issue is that the existing ductwork layout needs to be modified and balanced for the correct airflows. Imbalances in the system were discovered throughout. There are issues with the overall air balance and outdoor air intake of the facility as well.

Site investigation shows signs that the ductless split system serving the Salvage Office, a location of poor indoor environment quality, appears to be over charged causing it to not dehumidify as needed in this space.

Another area of concern is in the boiler room, the boiler backflow preventer is leaking on the floor allowing water to pool in this area. This water is traveling through the wall into the Salvage Office and up the drywall. The back flow preventer needs to be replaced to stop the water from standing and traveling into other areas.

The existing main air handling unit (AHU-1) has a heating coil installed before the cooling coil, which is common design practice; however this does not facilitate dehumidification.

The following is a detailed list of findings and recommendations for each system reviewed.

Building Automation System:

1. The control system is programmed to maintain a 55°F leaving discharge air temperature in cooling. This cooling system is a direct expansion (DX) refrigerant system that is only single stage. In this case the controller is just enabling and disabling the condenser. When the leaving discharge air temperature goes below 55°F the controls disable the condenser. When the leaving discharge air temperature rises above 55°F the condenser is enabled. This is causing added wear and tear on this equipment. Typical sequencing of a system like this is to enable the condenser when a call for cooling is present in the space that it is serving and disable when that cooling call is satisfied within the space. This equipment cannot vary refrigerant flow to maintain a set leaving discharge temperature without a source of reheat.

2. The outside air damper is being controlled to maintain a minimum percent open of 10% in the occupied mode. However the controller is not responding correctly causing the outside air damper to remain fully closed. Make up air is required for balancing the building along with a code required minimum outside air amount per person. Two other motor operated dampers are installed in the return ductwork to regulate the building relief. When the outside air damper is open 10% the return damper should close 10% and the relief damper open 10%. The installed dampers do not presently operate in this manner.
3. One space thermostat is installed to operate AHU-1 cooling and heating enable. This thermostat is to send signal to the BAS to enable and disable cooling and heat calls for space temperature. The current thermostat for AHU-1/Controls is located in the break room. The thermostat is original to the building and currently not operational. Without properly functioning thermostats the BAS is not able to control space temperature and equipment operation.
4. The outside air intake temperature sensor that has been replaced is installed on the wrong side of the motor operated intake damper. It is currently installed after the intake damper causing the sensor to read more of a mixed return temperature and not a true outside air intake temperature.
5. The mixed return air sensor and the leaving air sensors have been replaced since the controller was replaced.
6. The controller has not been fully programmed for setpoints and schedules that is causing the controller to not perform proper operation of the HVAC system. The existing schedule is forcing the system to be in occupied mode 24 hours a day/7 days a week/ 365 days a year. This is causing unnecessary energy usage and reduces the lifetime of equipment.
7. See attached appendix A for points list work sheet and parameter/setpoint work sheets.

BAS Recommendations:

1. The sequences of operation for cooling need to be updated. Due to the system only being single stage the condenser should be enabled when there is a call for cooling in the space not by the discharge air temperature.
2. Recommend that all three motor operated dampers actuators be replaced, remapped, and calibrated. Once this is completed the controller needs to be reprogrammed for minimum outside air intake and relief for proper building pressure. In the programming the damper needs to be open to minimum in the occupied mode and 100% recirculation in the unoccupied mode. All components are present to achieve these sequences of operation.
3. Recommend that the thermostat be replaced, mapped, and calibrated for proper operation. The controller will need to be reprogrammed to operate from thermostat setpoint and not leaving air temperature.
4. Recommend that the outside air intake sensor be relocated to before the motor operated damper to achieve the correct readings and system operation.
5. Recommend that the mixed air sensor and leaving air sensor be recalibrated for proper operation when all other calibrations and reprogramming is being completed.
6. Recommend that the controller be reprogrammed with correct setpoints and schedules for proper operation and usage times.

Supply and Return Ductwork:

1. All of the supply diffusers were installed by cutting an opening into the bottom of the supply ductwork with the diffuser mounted directly into the ductwork. This does not allow for correct air tight seal and is causing air to leak from the system. This is not proper practice for installation. The existing installation the system cannot be balanced to the proper air flow required.
2. Areas have been reconfigured over the years to make offices and storage areas. When this was completed the HVAC system was not modified to the reconfiguration for proper supply and returns of each area causing some areas to be over supplied with air quantities and other not enough air flow.
3. Two electric duct heaters are installed in the supply ductwork. One is for the corridor, small office in drive test area, and lobby. This heater is installed in the corridor ceiling. Due to the way the heater is installed access into the control panel is not achievable. The access door can be opened but there is not enough room to see into the control panel for serviceability. The electric duct heater is not controlled by the BAS but by a local thermostat located in the small driver testing office. The second electric duct heater is installed in the ceiling of the driver testing office and serves the two supply diffusers located in that area. The control panel was opened for this heater. This electric duct heater is not controlled by the BAS but by a local thermostat that is located in this area. The two electric duct heaters do not appear to be operational.
4. The return ductwork appears to be installed correctly with the exception of the one return in the PIC Unit office. It appears that when the ceiling tile was replaced the opening was never cut and the grill wasn't installed.
5. The supply ductwork above the ceiling has had insulation removed to perform duct cleaning. This insulation has not been repaired.
6. See attached appendix B for air flow measurements work sheet and current ductwork layout drawing.

Supply and return Ductwork Recommendations:

1. Recommend engineering re-design which would include performing a load calculation for proper air flow required in each area. Once that has been completed we recommend that all supply diffusers be removed and ductwork openings be sealed. Install new takeoffs with dampers from the ductwork with the correct size flex to a new ceiling diffuser. After completion of the new takeoffs and ceiling diffusers are installed the system needs to be balanced to the modified designed airflows.
2. Refer to recommendation number 1 above.
3. Recommend that the two electric duct heaters be repaired or replaced along with local thermostats for proper operation.

4. Recommend that the return ductwork also be redesigned for proper air flows per area. Once this is completed make modifications per the redesign. Balance system at the same time as noted in recommendation number 1 above.
5. Recommend that all ductwork above ceiling that is missing insulation be replaced or repaired in order to not add load to the system.

Air Handler #1:

1. Air Handler #1 is a Trane 7 ½ ton single stage DX split system. Manufacture date was 03/09. ASHRAE's standard life expectancy states 15 years. This equipment is 22 years old and 7 years past ASHRAE life expectancy.
2. Air handler unit has a hot water coil and a DX cooling coil installed. With the hot water coil being installed before the DX coil dehumidification cannot be performed. Dehumidification sequence is not installed in the existing BAS sequences of operation.
3. Air filters are clean and appear to be changed regularly. The heating coil behind the air filter has some debris and is in need of cleaning for air quality control.
4. Condenser contactor is showing signs of wear and tear. This should be replaced to avoid failure.

Air Handler #1 Recommendations:

1. Recommend that once the BAS recommendations and Ductwork Recommendations are completed this system be looked at for replacement under capital improvement.
2. Recommend if unit is replaced it be designed with dehumidification capabilities.
3. Recommend Hot Water Coil fins be cleaned for air quality control and performance.
4. Recommend that the condenser contactor be replaced before the part fails.

Exhaust Fans:

1. The bathroom exhaust fans are operated by a relay when the light fixture is powered the exhaust fan is enabled.
2. The two women's rooms exhaust fans are not operational.
3. The one Men's room next to the lobby fan is working with the light fixtures but the air flow quantity is very high. Current exhaust air flow is 242 CFM. Code requirement for this bathroom is 75 CFM. The back men's room roof exhaust fan is not operational but a ceiling bath fan was installed. This fan is exhausting 80 CFM and is an acceptable air flow quantity.

Exhaust Fan Recommendations:

1. Recommend that all bath exhaust fans be controlled by the BAS. In the occupied mode the exhaust fans should be enabled and in the unoccupied mode the fans should be disabled. With this sequence implemented the outside air intake can be coupled with the proper amount of outside air for building pressurization.
2. Recommend that the fans be repaired and balanced to code requirements of 75 CFM each.
3. Recommend that the men's room next to the lobby be balanced to code required exhaust air of 75 CFM and sequenced by the BAS. The back men's room roof top exhaust fan be repaired, balanced to code requirements, and operated by the BAS for proper building pressure.

Ductless Split Systems:

1. The Salvage Office ductless split appears to be incorrectly charged. The liquid line and suction line are both sweating. The liquid line should never be sweating in this type of system. With incorrect charge or faulty metering device that controls refrigerant flow will cause the system to not cool correctly along with equipment failure.

Ductless Split System Recommendations:

1. Recommend that the refrigerant charge be check by using sub cooling as this is the correct way to perform charging of this system. This test will determine if the charge is correct and if the metering device is operating correctly.

Boiler System:

1. The hot water boiler system is being enabled by the BAS when the outside air temperature is below 60°F. The BAS is controlling the boiler enable, pump enable, and the three way control valve at the air handler hot water coil. The BAS controls the three way valve to maintain a set leaving air temperature of 80°F. The boiler once enabled by the BAS is controlled by local controls of the boiler. The heating loop is being enabled on and heats the loop water to the high limit setpoint of the controller on the boiler.
2. The installed backflow preventer that is leaking water from the relief vent. This vent is piped down to the floor then extended to dump two feet before the floor drain. This is causing that area to always have standing water in that corner. With the standing water on the floor the sheetrock walls are absorbing water. In the Salvage Office on the other side of the wall are two desks. We looked under these desks and found the floor is also wet from water transferring from mechanical room. Backflow preventers should never

have water draining from the relief vent unless there is a problem with water pressure or a faulty backflow preventer.

3. Baseboard is installed in each room for heating. Every room has its own thermostat to control a Honeywell zone valve. The men's bathroom next to the PIC Unit office needs the control valve to be repaired. The current valve is missing the motor operated actuator. All of the baseboard heaters are not controlled by the BAS. Only the boiler enable/disable and the three way control valve are controlled by the BAS.
4. Boiler relief valve is factory set at 30 pounds. The current pressure in the heating system is 35 pounds. The relief valve will release pressure to maintain a pressure below 32 pounds. The relief valve is piped down to the floor then along the floor about three feet before the floor drain.

Boiler System Recommendations:

1. The BAS is set to control the heating mode leaving discharge air temperature of 80°F. Recommend that the controls be reprogrammed to operate the air handler hot water coil in occupied mode only. When in unoccupied mode the air handler outside air damper needs to be closed and supply fan be off. Boiler will remain enabled to supply hot water to the baseboard heaters. The baseboards heaters will maintain heating setpoint in the unoccupied mode. A true sequence of operation needs to be implemented for best performance along with system efficiency.
2. Recommend that the existing backflow preventer be replaced. Recommend that at the same time the relief vent piping be extended to dump into the floor drain. This will allow the floor to not have standing water in that area.
3. Recommend that the actuator for the men's bathroom be replaced. At the same time recommend that all zone valves be checked for proper operating. Replace any valves that do not operate correctly. If new control system is installed we recommend that the baseboard heating be controlled by the BAS. This will reduce wear and tear on control valves.
4. Recommend that the pressure reducing valve be adjusted to maintain a system pressure of 20 pounds. The relief valve piping needs to be extended to discharge into the floor drain.

Indoor Environment:

1. Humidity and air temperatures were recorded for the Break Room. As the cooling system is turned on manually to cool the building spaces the break room is sub cooling. With this space sub cooling the humidity levels are rising and there is no measurement or control of this humidity increase. The longer the cooling system runs the lower the space temperature gets and humidity levels rise continue to climb. On Friday 8/17/2012 Concord was on site at 9am. The outside temperature was 82°F with high humidity levels. The cooling system was in manual mode continuously from the day before.

Space temperature in the break room was 62°F. The windows had an extreme amount of condensation along with water pooling on the sills. The exterior wall panels for the break room also had condensation. There is a thermostat located in this room that does not work. The break room size has been reduced in order to add an additional office space. The ductwork and air quantities have never been changed to properly balance the areas.

2. Investigation office was an added office by reducing the break room size. This area has two supply diffusers and one return. Due to the system not being balanced this office was on average 3°F higher than the break room.
3. The PIC Unit office was two locker rooms that have since been converted to office space. The center wall was removed and the baseboard heaters have been modified to operate off of one thermostat. This thermostat is located behind a desk top making impossible access for adjustment. The two existing supply diffusers have been covered about 90%. It was stated that this office gets extremely cold. This area temperature reading was consistent with the Investigation Office temperature.
4. The driver testing office temperature was within limits. Humidity level measured was 46% RH. This area has an electric duct heater to maintain proper setpoint temperatures. This heater doesn't appear to be operational.
5. The salvage office has its own ductless split system. The equipment was bringing space temperature down to setpoint but humidity levels were high. Unit appears to be over charged or bad metering device to regulate refrigerant flow.

Indoor Environment Recommendations:

1. Recommend that the ductwork be modified and balanced for proper balance of air flow. Thermostat needs to be replaced and controls completed per the BAS recommendations.
2. Recommend this area ductwork modified after re-design to determine adequate air distribution based on cooling and heating loads.
3. Recommend this area ductwork modified after re-design to determine adequate air distribution based on cooling and heating loads.
4. Recommend that the electric duct heater be repaired or replaced along with thermostat for proper operation.
5. Recommend that the ductless split be service for proper operation.
6. See Appendix C for recorded data of temperature and humidity levels.

Conclusion

Concord Engineering has performed site visits to record data and current conditions. With all of the data recorded Concord listed the findings and recommendations for each part of the HVAC System above. In addition to reviewing the HVAC system Concord Engineering also reviewed some of the building envelope issues. The inside wall to the inspection lanes has penetrations between the two buildings that are not sealed properly. Air flow measurements show that this area of the building is at a negative pressure and drawing unconditioned air into the office part of the building. These penetrations need to be sealed. The exterior double door in the Salvage Office has bad seals around the door frame. It is recommended the frame be resealed and possibly a canopy or vestibule be installed. This will keep the water from entering the building along with unconditioned air which would reduce the added heating and cooling loads to the HVAC systems. These items are in addition to Joseph B. Callaghan's report dated July 26, 2012.

After studying all of the data that has been collected Concord can provide a priority list of items to be completed.

1. Building heating and cooling load analysis. This will supply the correct air flows that are needed in each area.
2. A complete sequence of operation for the BAS needs to be designed and implemented.
3. Controls contractor needs to repair and install new sensors, dampers, and thermostats. This includes reprogram controller to meet the designed sequences of operation.
4. Mechanical contractor needs to modify ductwork to the re-designed ductwork modifications per the load calculations performed.
5. Replace boiler back flow preventer and extend the back flow vent pipe to discharge directly into the floor drain. At the same time extend the boiler relief to discharge into the floor drain. This will help prevent standing water in the mechanical room.
6. Repair or replace the two electric duct heaters for proper operation. This is to include controls as needed.
7. Repair all exhaust fans for proper operation and code requirements.
8. When ductwork and exhaust fans modifications and repairs have been completed a TAB contractor (Testing Adjusting and Balancing) needs to balance the building to the designed air flow quantities for proper building pressure.
9. Ductless split unit in the Salvage Office needs to be diagnosed and repaired for proper operation.

Estimated Implementation Cost

Based on the evaluation of the facility and present conditions the following is an estimate of cost that would be expected to cover the modifications to the facility. This fee does not take into account any signed and sealed engineering documentation, construction management or commissioning fees that may be associated with a project of this nature. Cost estimates are based on industry accepted costing data such as RS Means Cost Data, contractor pricing and engineering estimates and are +/- 20%. Prevailing wage rates for the specified region has been utilized by the owner for prioritizing further project development. Project development would include detailed engineering.

1. Estimated implementation cost \$5,200.
2. Estimated implementation cost \$3,200.
3. Estimated implementation cost \$5,000.
4. Estimated implementation cost \$5,200.
5. Estimated implementation cost \$400.
6. Estimated implementation cost \$3,500.
7. Estimated implementation cost 1,700.
8. Estimated implementation cost \$5,000.
9. Estimated implementation cost \$500.

All items listed above would be the first step to gaining control of the buildings HVAC system for proper operation. Once this has been completed Concord would recommend the next following items:

1. Replacement of AHU-1 with the capability of dehumidification.
2. Replacement of the 7 ½ ton condensing unit to match AHU-1.
3. Install canopy or vestibule at the Salvage Office exterior double door.
4. Add internet to the controls for remote access and operation.
5. Program controller for graphics for system operation.

In conclusion with all of the findings and recommendations listed above Concord feels that the HVAC system is most likely the cause of humidity issues at this facility. Once all of the items listed above are completed and the HVAC system is functioning properly, future mold growth caused by inadequate operation of the HVAC system will be prevented.

All of this work will need to be coupled with a quality training program, a thorough preventative maintenance program, and continuous monitoring in order for the changes to be successful and the cooling system to function as originally intended.

Appendix

A

Appendix

B

Appendix

C

EXHIBIT 'C'

Appendix

D

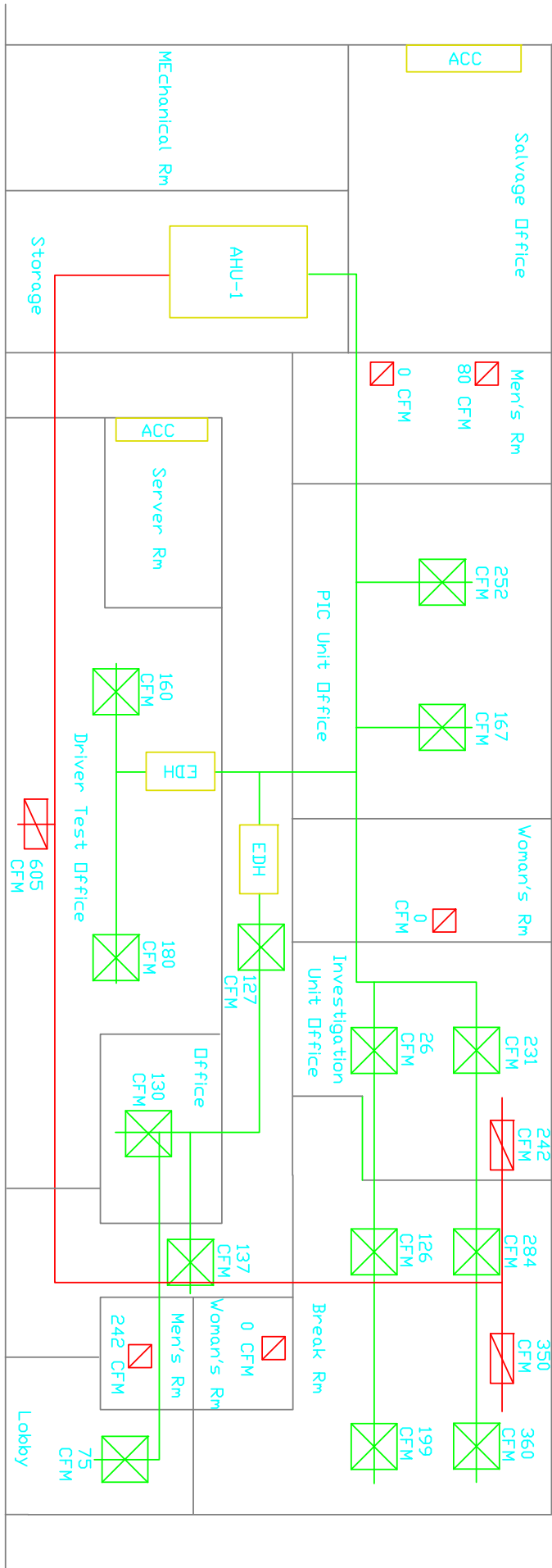


EXHIBIT 'C'

Controls Parameter/Setpoint

Project: Winslow DMV

Job # 4C12207.00

Parameter/ Setpoint	Parameter Description	Mapped and Calibrated Y/N	Functional Y/N	Comments
APP-MODE	System function mode.	Y	N	Set in auto but system has to be controlled manually
TUNING-RESET				
CLGOATLOCKOUT-SP	Cooling outdoor air temperature lockout setpoint.	Y	N	System being controlled in the manual mode
OAD-MINPOS	Outdoor air damper minimum position		N	Cannot override to check operation of damper
HTGOATLOCKOUT-SP	Heating outdoor air temperature lockout setpoint	Y	N	System being controlled in the manual mode
OCC-SCHEDULE	Occupant schedule		N	Shows to be Not Set
UNITEN-MODE			N	Shows to be Enabled
WC-C				Shows to be Normal
CLG-MINON	Cooling minimum on	Y	N	System being controlled in manual mode. Setpoint shown for this function is 120.
CLG-MINOFF	Cooling minimum off	Y	N	System being controlled in manual mode. Setpoint shown for this function is 180.
CLG-O				Shows 100.0
CLG-OUTSTATE	Cooling control setpoint	Y	N	Shows to be controlled by the Thermostat. Thermostat is not responding.
MAD-RAMPRATE	Mixed air damper ramp rate	Y	N	System being controlled in the manual mode. Setpoint shows 50.0
DATHTGUNOCC-SP	Discharge air temperature heating unoccupant setpoint	Y	N	System being controlled in the manual mode. Setpoint shows 80.0
DATCLGUNOCC-SP	Discharge air temperature cooling unoccupant setpoint	Y	N	System being controlled in the manual mode. Setpoint shows 58.0
EFFDAT-SP	Effective discharge air temperature setpoint	Y	N	System being controlled in the manual mode. Setpoint shows 55.0
DAT-OARSTA	Discharge air temperature outdoor air reset supply temperature	Y	N	System being controlled in the manual mode. Setpoint shows 75.0
DATHI-SP	Discharge air cooling high setpoint	Y	N	System being controlled in the manual mode. Setpoint shows 70.0

Controls Parameter/Setpoint

Project: Winslow DMV

Job # 4C12207.00

Parameter/ Setpoint	Parameter Description	Mapped and Calibrated Y/N	Functional Y/N	Comments
DATLO-SP	Discharge air temperature cooling low setpoint	Y	N	System being controlled in the manual mode. Setpoint shows 55.0
DAT-OARSTB	Discharge air temperature outside air reset standby	Y	N	System being controlled in the manual mode. Setpoint shows 40.0
ECON-AVAILABLE	Economizer available	N	N	Set to False. Economizer is not active
ECONSWO-SP				Set for 66.0
LT-PB				Display shows 9.0
RH-OUTSTATE	Relative humidity outstate	N	N	System can not do dehumidification
SMOKE SEQUENCE-STATUS		Y	N	Display shows to be normal
STARTSTOP-STATE		Y	N	System is controlled manual.
PFRESTART-EN				Set to False.
PFRESTART-TIME		Y	N	System is being controlled manually. Display shows setting of 30.0
UNITEN-STATE				Display shows Enable
RH-AVAILABLE	Reheat available	N	N	Not available
CLG-AVAILABLE	Cooling available	Y	Y	System is being controlled manually. Display shows True
EFF-OCC	Effective occupant	Y	N	System is being controlled manually. Display shows Occupied
OCCMODE-BYPASSTIME	Occupied mode bypass time	Y	N	System being controlled in the manual mode. Display shows 3600
AHU-STATE				Display shows HX COOL+MECH



AHU-1

Photo #1

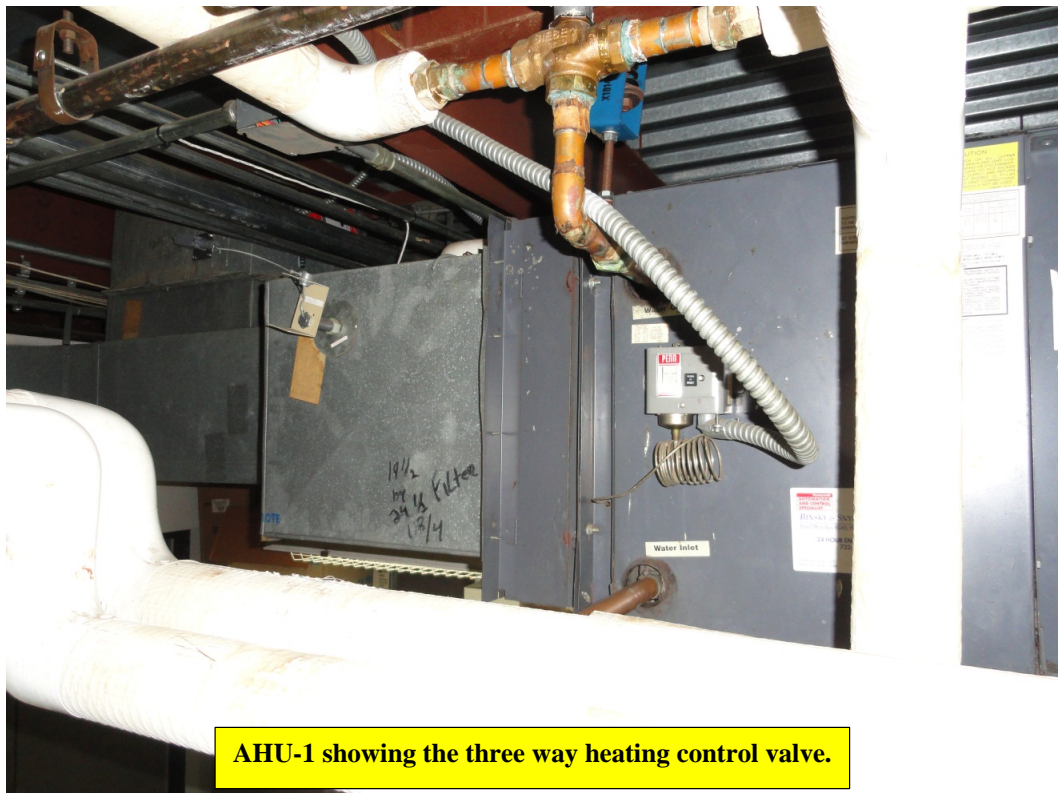


Photo #2

EXHIBIT 'C'



Photo #3



Photo #4

EXHIBIT 'C'



Supply Ductwork.

Photo #5



Supply ductwork connection to AHU-1.

Photo #6

EXHIBIT 'C'



AHU-1 showing refrigerant circuit TXV valve.

Photo #7



Men's room heating control valve that is miss the actuator.

Photo #8

EXHIBIT 'C'



Photo #9

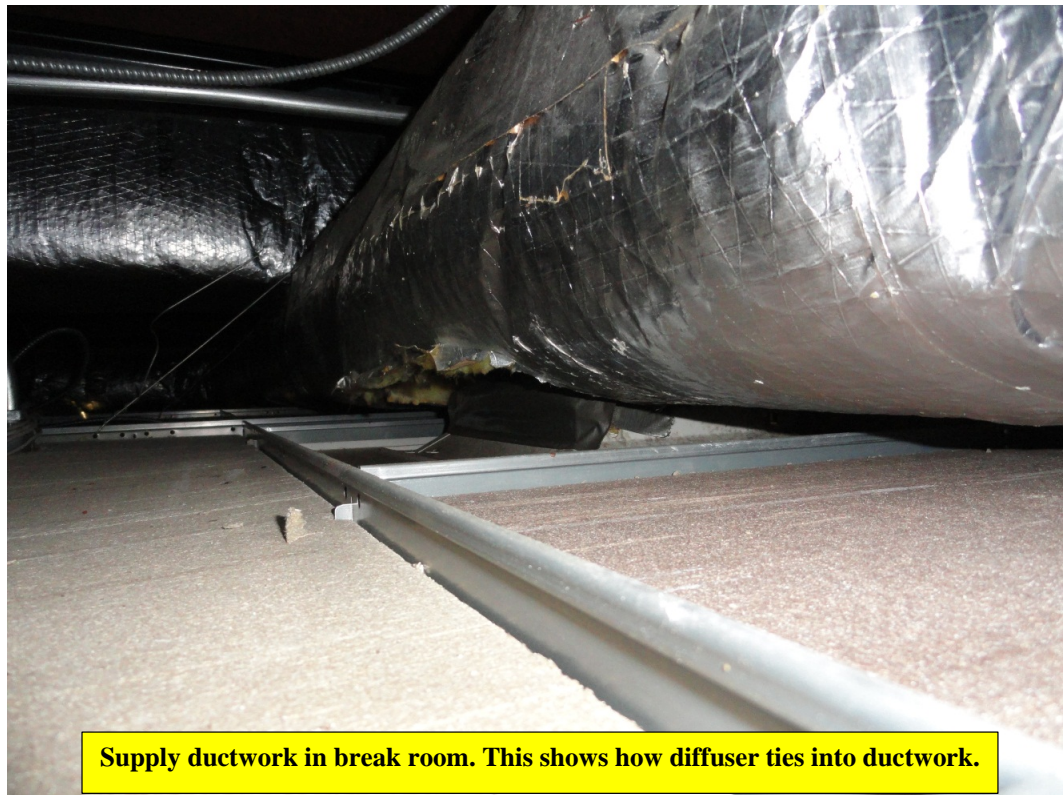


Photo #10

EXHIBIT 'C'



Shows gap between diffuser and ductwork connection.

Photo #11



Electric Duct Heater.

Photo #12

EXHIBIT 'C'



Electric Duct Heater.

Photo #13

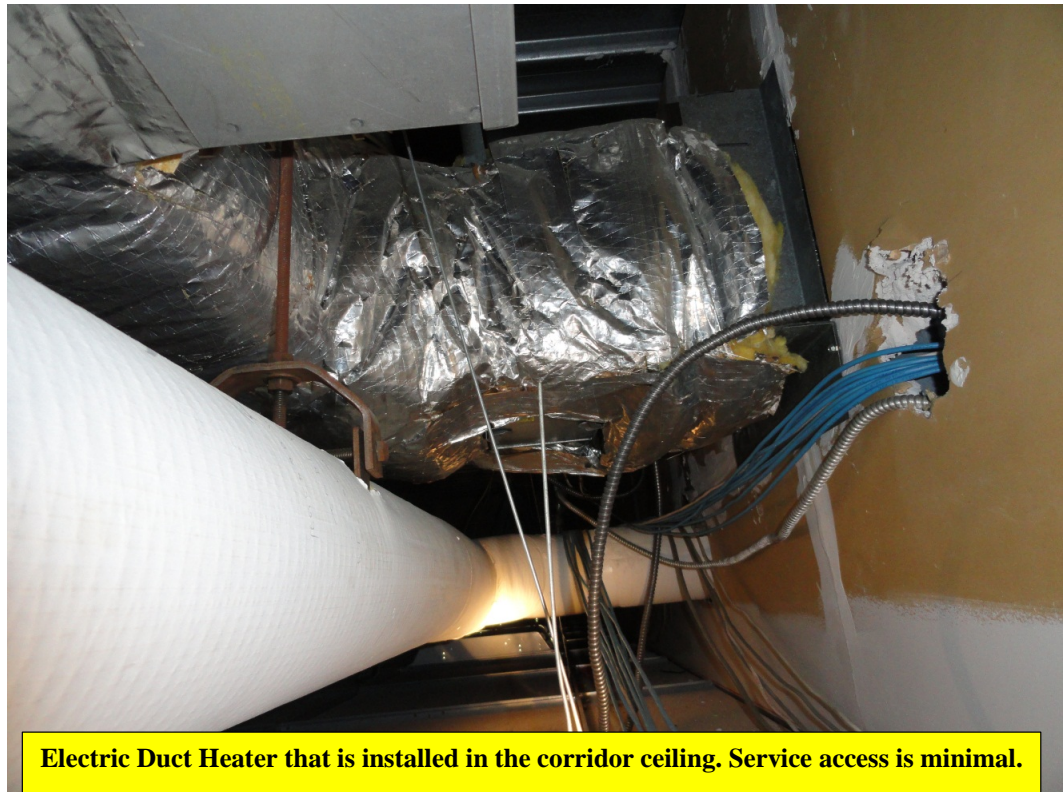


Photo #14

EXHIBIT 'C'

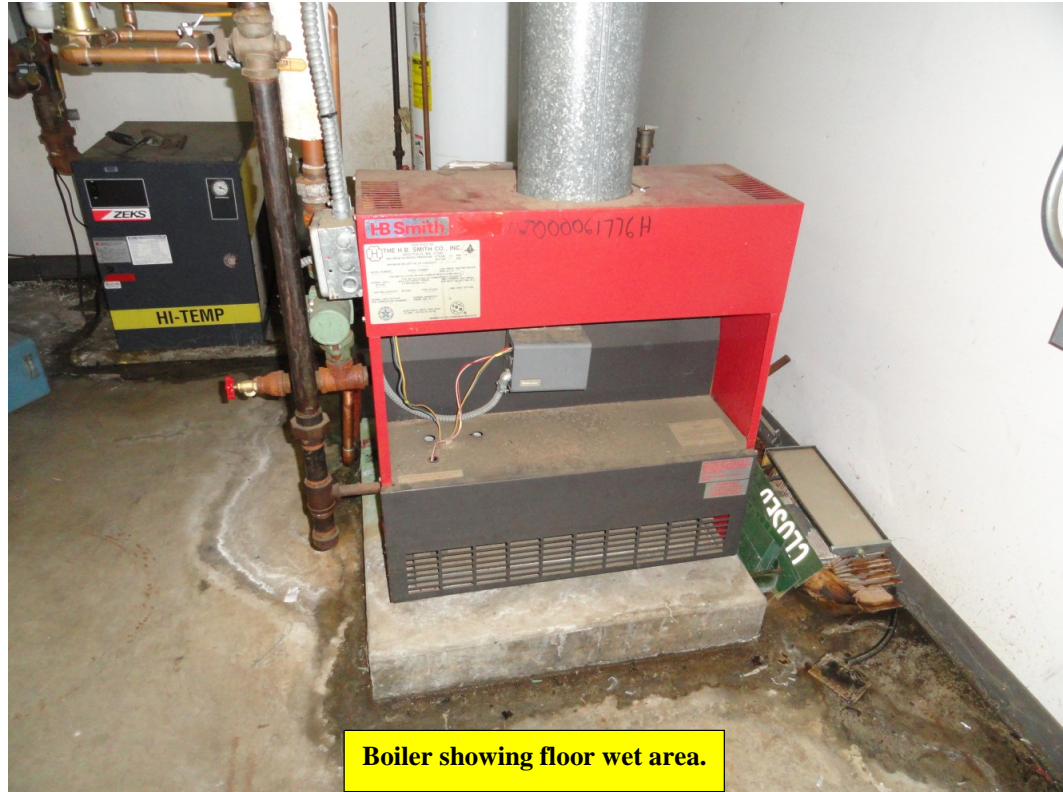


Photo #15

Back flow preventer drain line that is not piped to the floor drain along with the boiler relief valve not piped to the floor drain. This is the cause of standing water around boiler.



Photo #16

EXHIBIT 'C'



Photo #17



Photo #18

EXHIBIT 'C'



Boiler relief tag showing pressure limit.

Photo #19



Back flow preventer and boiler relief piping not extended to floor drain.

Photo #20

EXHIBIT 'C'

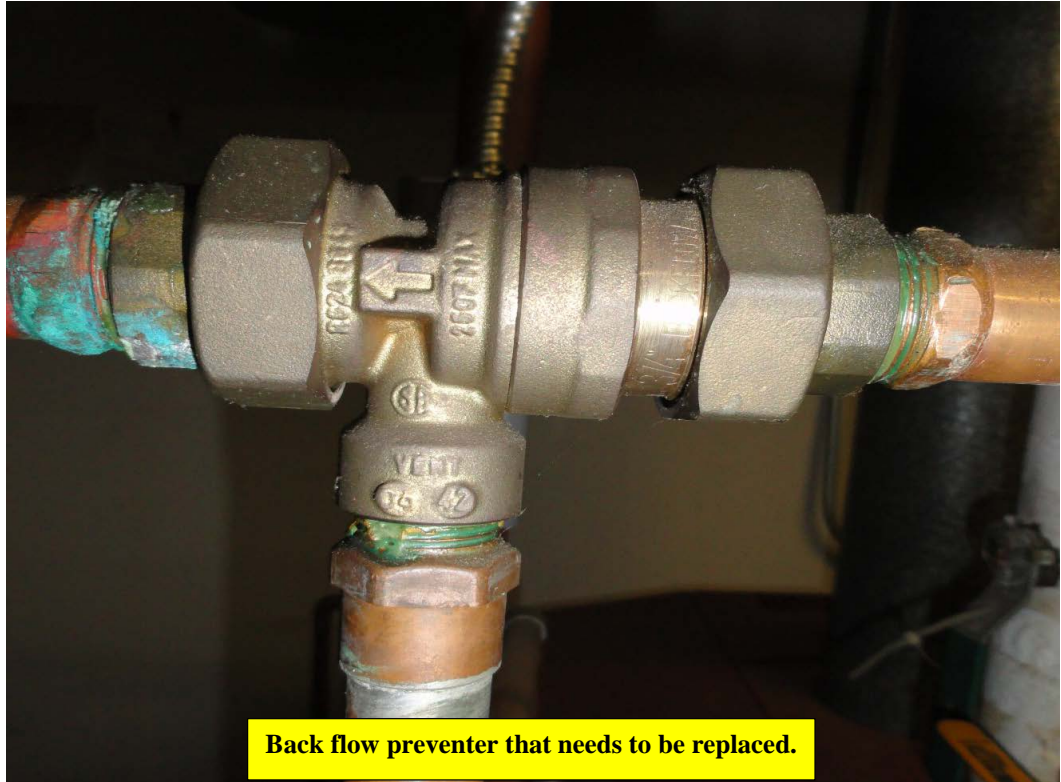
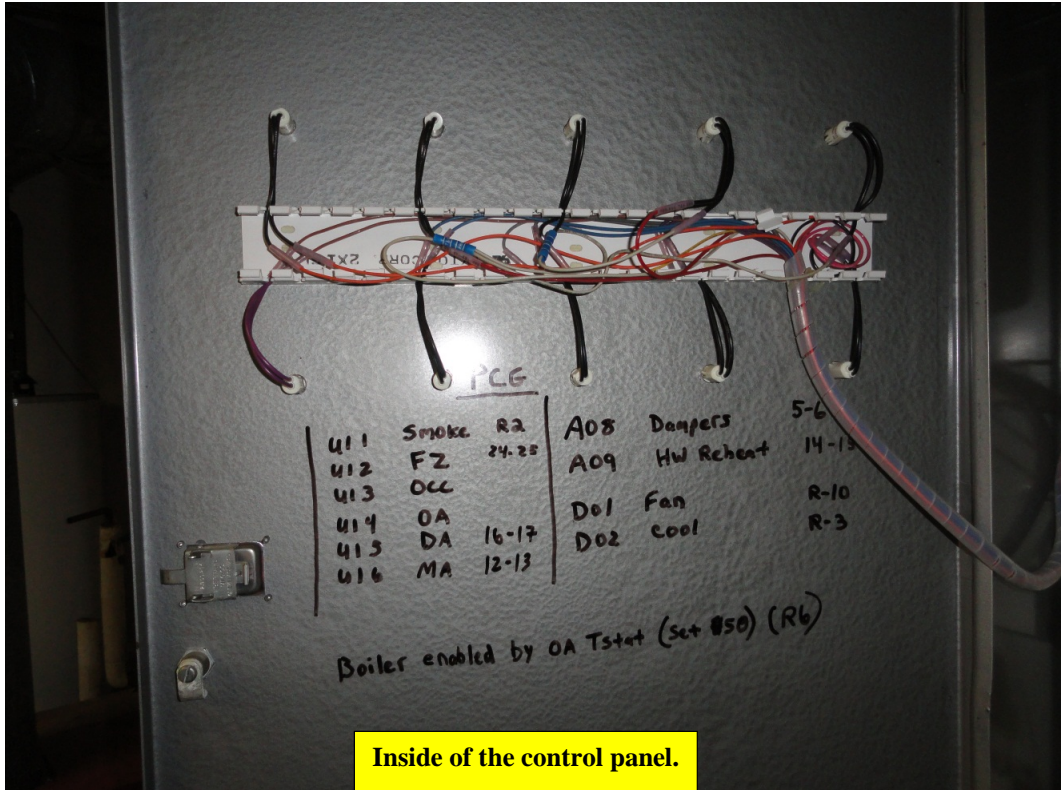


Photo #21



Photo #22

EXHIBIT 'C'



Inside of the control panel.

Photo #23



Motor starters for AHU-1 and Boiler system.

Photo #24

EXHIBIT 'C'



BAS control panel housing in the Mechanical Room.

Photo #25

EXHIBIT 'C'

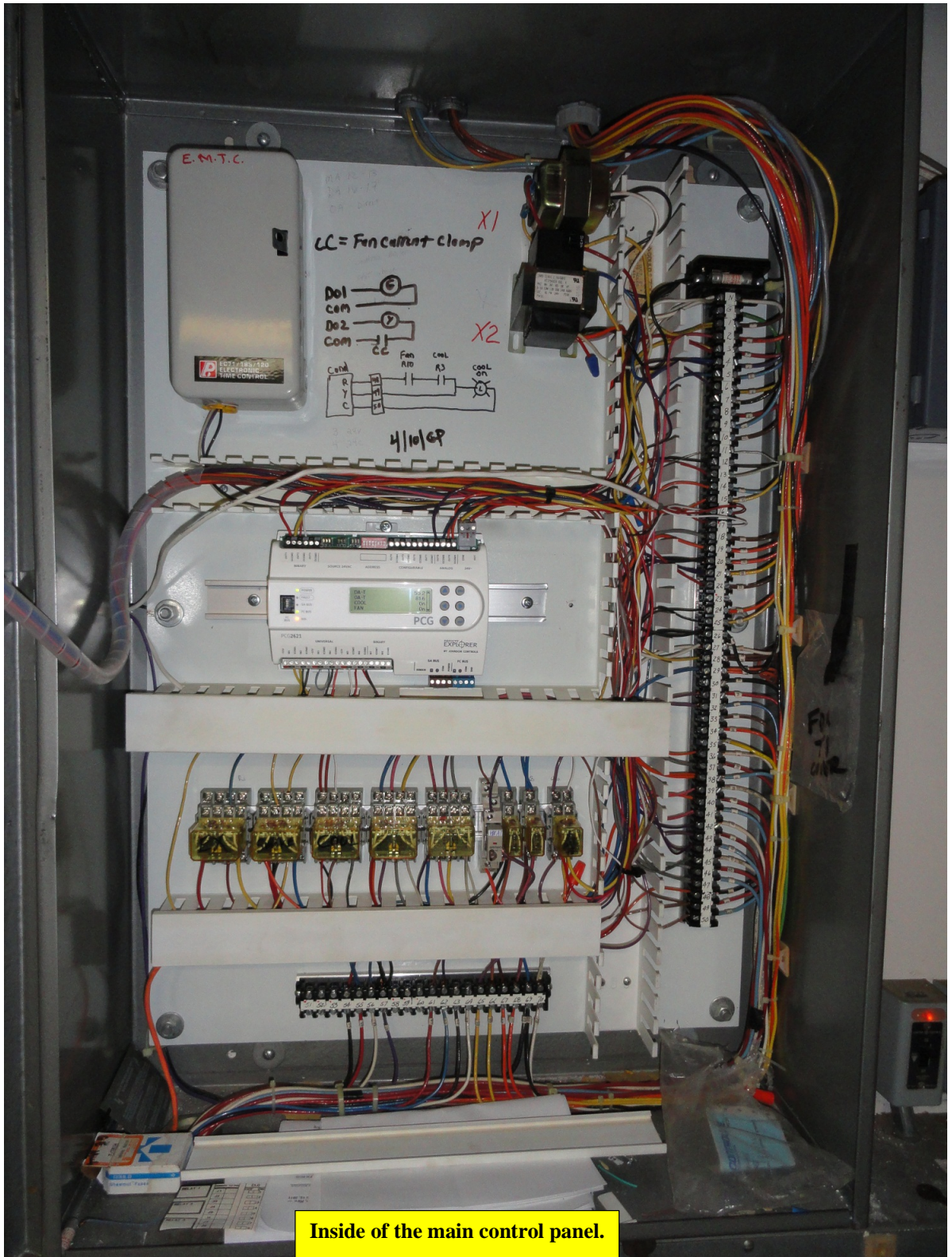


Photo #26

EXHIBIT 'C'

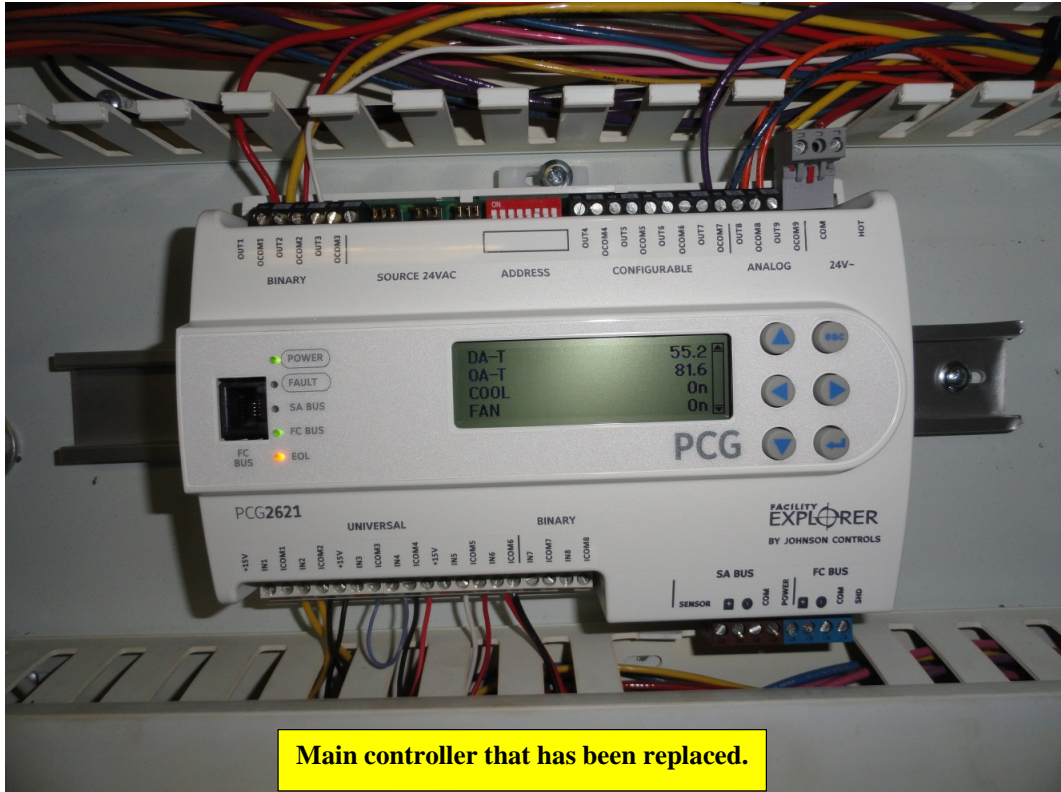
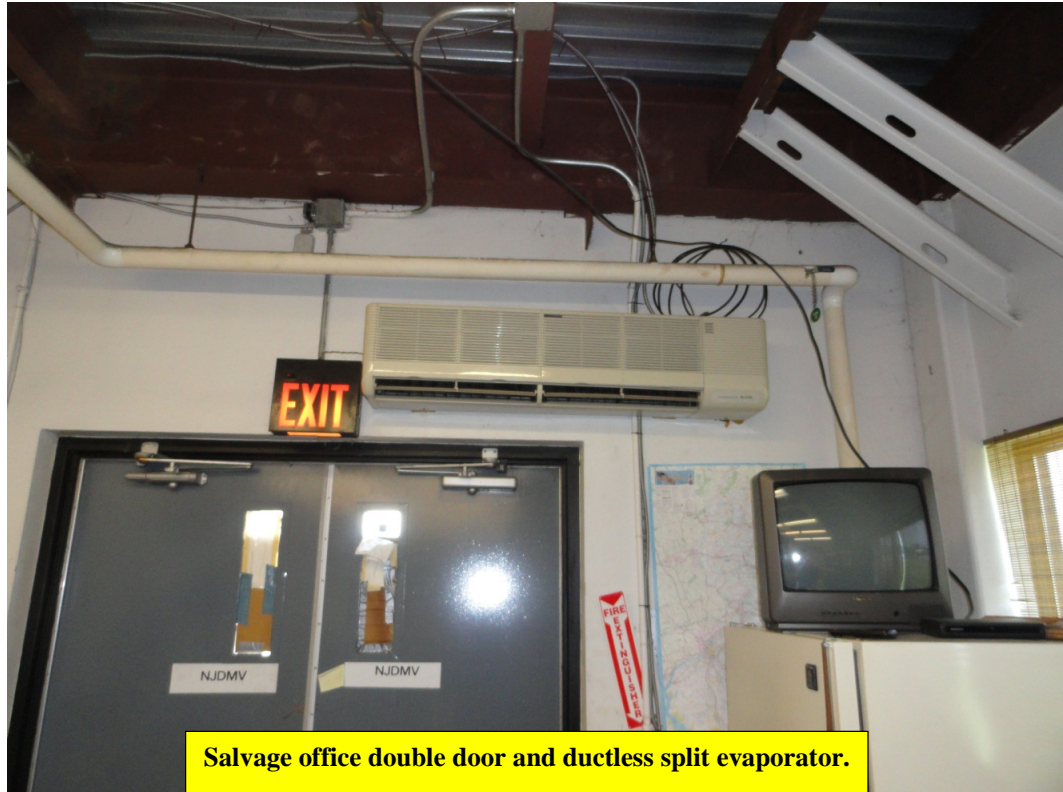


Photo #27



Photo #28

EXHIBIT 'C'



Salvage office double door and ductless split evaporator.

Photo #29



Ductless split condensing unit for the Salvage Office.

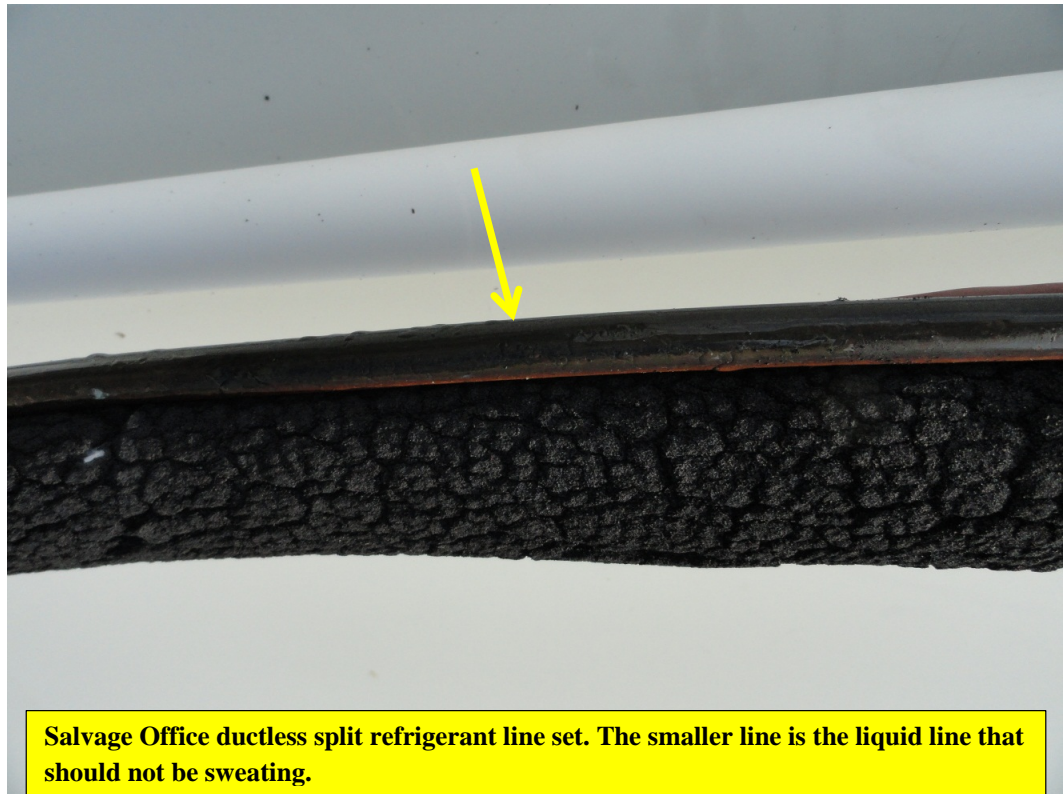
Photo #30

EXHIBIT 'C'



Ductless split condenser rating plate.

Photo #31



Salvage Office ductless split refrigerant line set. The smaller line is the liquid line that should not be sweating.

Photo #32

EXHIBIT 'C'



Photo #33



Photo #34

EXHIBIT 'C'



Photo #35



Photo #36

EXHIBIT 'C'



Photo #37



Photo #38

EXHIBIT 'C'

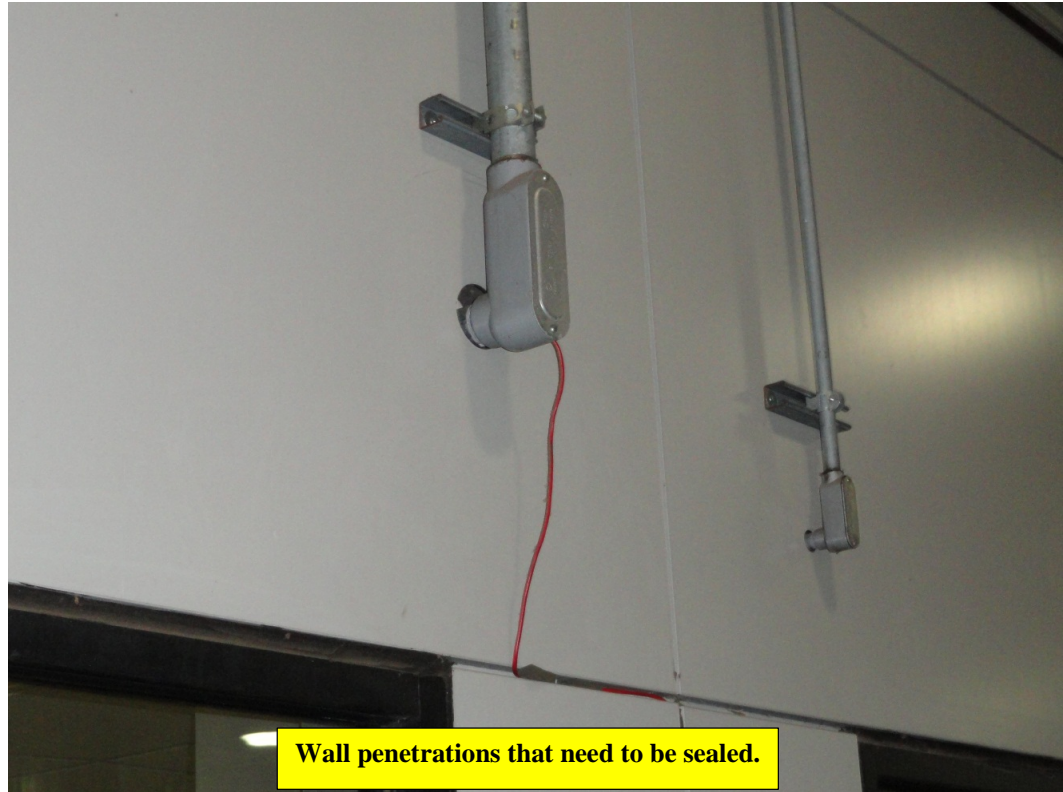


Photo #39

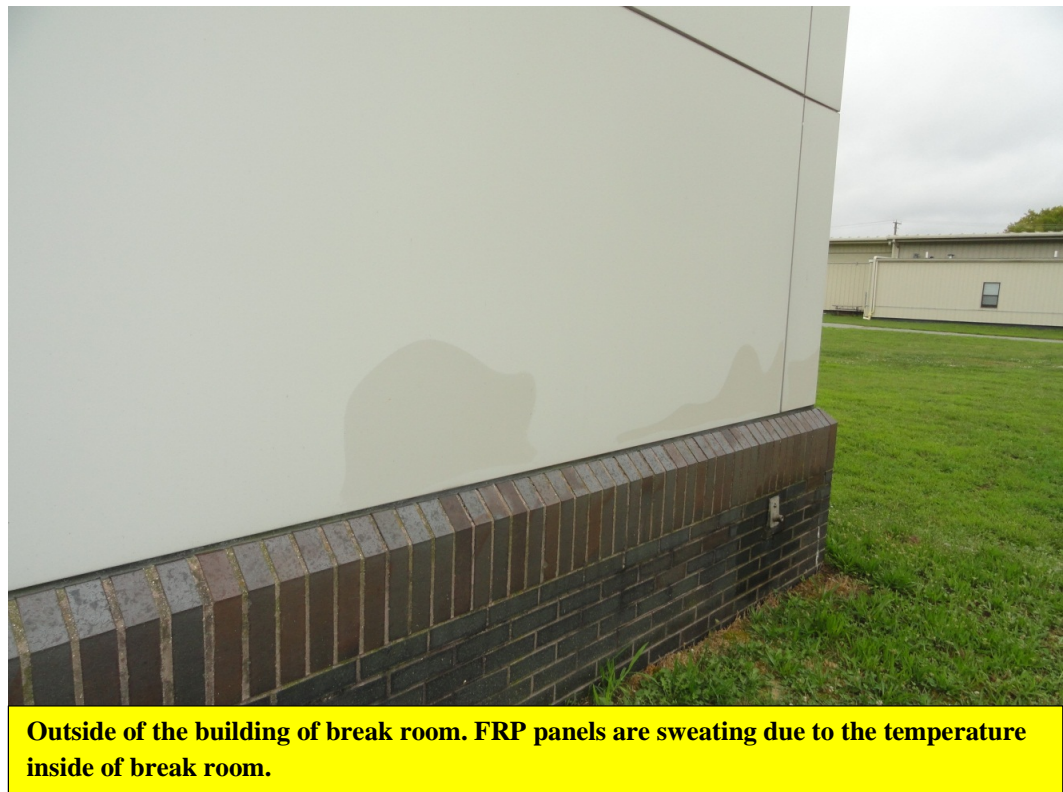


Photo #40

EXHIBIT 'C'



Outside of the building of break room. FRP panels are sweating due to the temperature inside of break room.

Photo #41



Outside air intake damper and sensor that need to be repaired for proper operation.

Photo #42

EXHIBIT 'C'



Photo #43



Photo #44

EXHIBIT 'C'

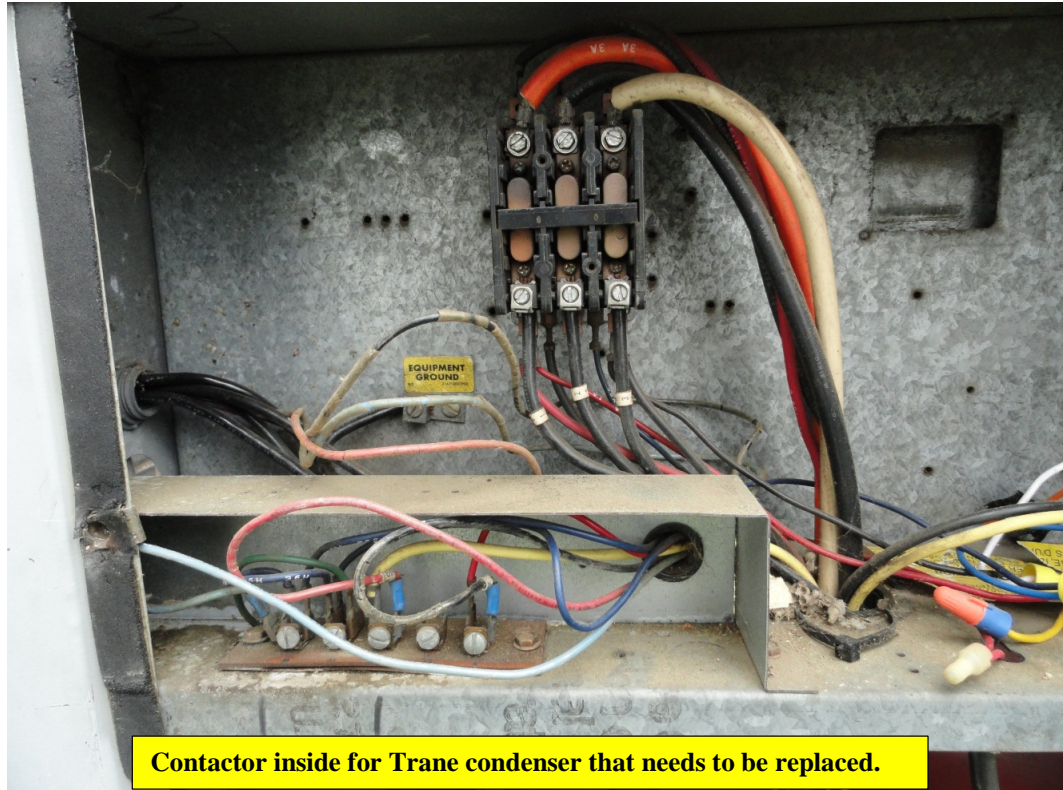


Photo #45



Photo #46

EXHIBIT 'C'



Contactors inside for Trane condenser that needs to be replaced.

Photo #47



Trane condenser compressor name plate.

Photo #48

EXHIBIT 'C'

Controls Point List

Project: Winslow DMV

Job # 4C12207.00

Point Name	Point Description	Mapped and Calibrated Y/N	Functional Y/N	Comments
DA-SD	Discharge Air Smoke Detector	Y	Y	
COOL	Cooling enabled	Y	N	System being operated in manual mode.
	Elapsed Active Time	Y	Y	
	Out of Service	Y	Y	
	Priority	Y	Y	
	Override Status	Y	Y	
OAD-O	Outside air Damper Output	Y	N	System being operated in manual mode.
	Out of Service	Y	Y	
	Priority	Y	Y	
	Override Status	Y	Y	
DA-T	Discharge Air Temperature	Y	Y	
	Device Type	Y	Y	
	Units	N	Y	Does not get mapped due to internal programming.
	Out of Service	Y	Y	
	Offset	Y	Y	
RH-O	Reheat Output	Y	Y	System being operated in manual mode.
	Device Type	Y	Y	
	Units	Y	Y	
	Out of Service	Y	Y	
	Priority	Y	Y	
LT-A	Low Temperature Alarm	Y	Y	
	COS Count	Y	Y	
	Elapsed Active Time	Y	Y	
	Device Type	Y	Y	
	Out of Service	Y	Y	
FAN	Blower fan enable	Y	N	System being operated in manual mode.
	COS Count	Y	Y	
	Elapsed Active Time	Y	Y	
	Device Type	Y	Y	
	Out of Service	Y	Y	
	Priority	Y	Y	
	Override Status	Y	Y	
MA-T	Mixed Air Temperature	Y	Y	
	Device Type	Y	Y	
	Units	Y	Y	
	Out of Service	Y	Y	
	Offset	Y	Y	
OCC-S	Occupancy Status	Y	N	System being operated in manual mode.

Controls Point List

Project: Winslow DMV

Job # 4C12207.00

Point Name	Point Description	Mapped and Calibrated Y/N	Functional Y/N	Comments
	COS Count	Y	Y	
	Elapsed Active Time	Y	Y	
	Device Type	Y	Y	
	Out of Service	Y	Y	
OA-T	Outdoor Air Temperature	Y	Y	
	Device Type	Y	Y	
	Units	Y	Y	
	Out of Service	Y	Y	
	Offset	Y	Y	

Current Air Flow Measurements

Project: Winslow DMV
 Date Readings Taken: 8/20/2012
 Time: 9am - 11am

Job # 4C12207.00
 Outside Temperature: 78° F

Unit/Fan No.	Room	Outlet No.	Code	Size	Design CFM	Actual CFM	Notes	
AHU-1	Break Room	1-4	CD-4			360		
		2-4	CD-4			199		
		3-4	CD-4			126		
		4-4	CD-4			284		
			1-1	RG			350	Return Grill in Break Room
	Office Next to Break Room	1-2	CD-4				231	
		2-2	CD-4				26	
		1-1	RG				242	Return Grill in new office.
	PIC Unit Office	1-2	CD-4				167	
		2-2	CD-4				252	
		1-1	RG			0	Return Ductwork is above ceiling and has not been installed in the ceiling.	
Driver Testing Office	1-2	CD-4				160		
	2-2	CD-4				180		
	1-1	RG				605	Space is in a negative pressure.	
Small Office Next to Driver Testing Office	1-1	CD-4				130		
	Corridor	1-2	CD-4				127	
		2-2	CD-4				137	
Lobby	1-1	CD-4				75		
	1-1	RG				156	Space is in a negative pressure.	
Remarks:								

STATE OF NEW JERSEY

Chris Christie
Governor

Kim Guadagno
Lt. Governor

Raymond P. Martinez
Chairman and Chief Administrator

M E M O R A N D U M

TO: Angela Sperrazza, Director, Facilities & Support Services
John Sarnowski, Coordinator, Winslow Specialty Site

FROM: Salvatore Fama, Manager, Occupational & Environmental Health *S.F.*

DATE: May 12, 2016

SUBJECT: **Winslow Specialty Site Mold Issue**

The OH&S reinspected the Facility on May 6, 2016 in response to an outstanding Fire Code violation. Visible mold is still present in the facility and hazards found are summarized in the following tables (see 1-8):

EXHIBIT 'D'



1. Mold Growing on Diffuser in Vestibule



2. Mold Growing on Diffuser, Splines and Light Cover in Break Room

EXHIBIT 'D'



3. Mold Growing on Diffuser, Splines & Light Cover in Break Room

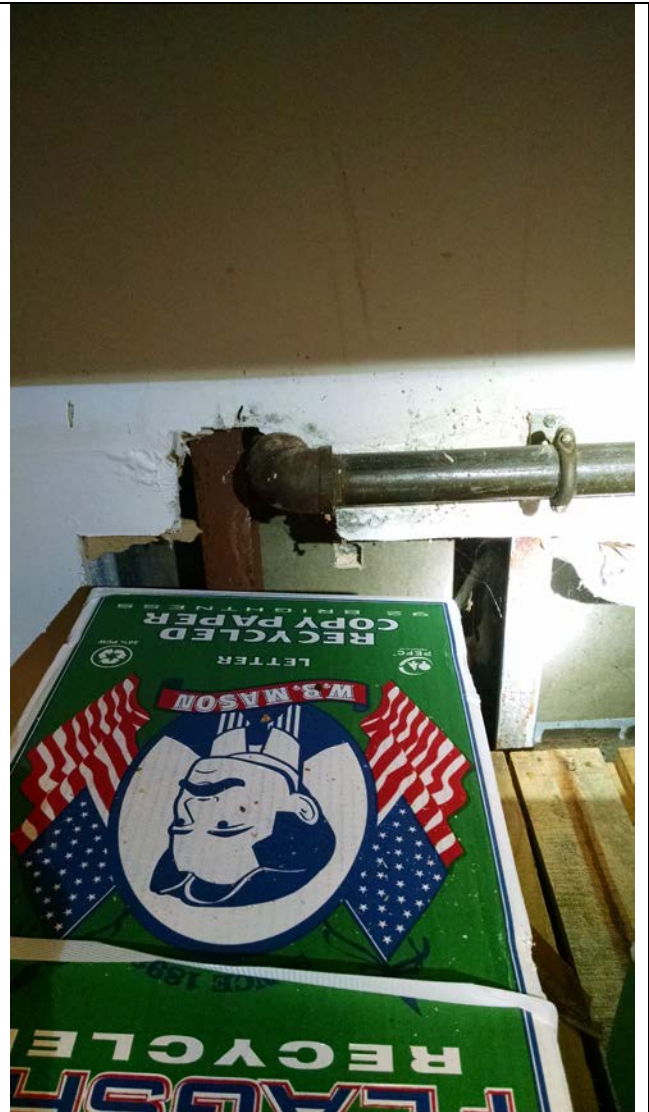


4. Mold Growing on Office Wall

EXHIBIT 'D'

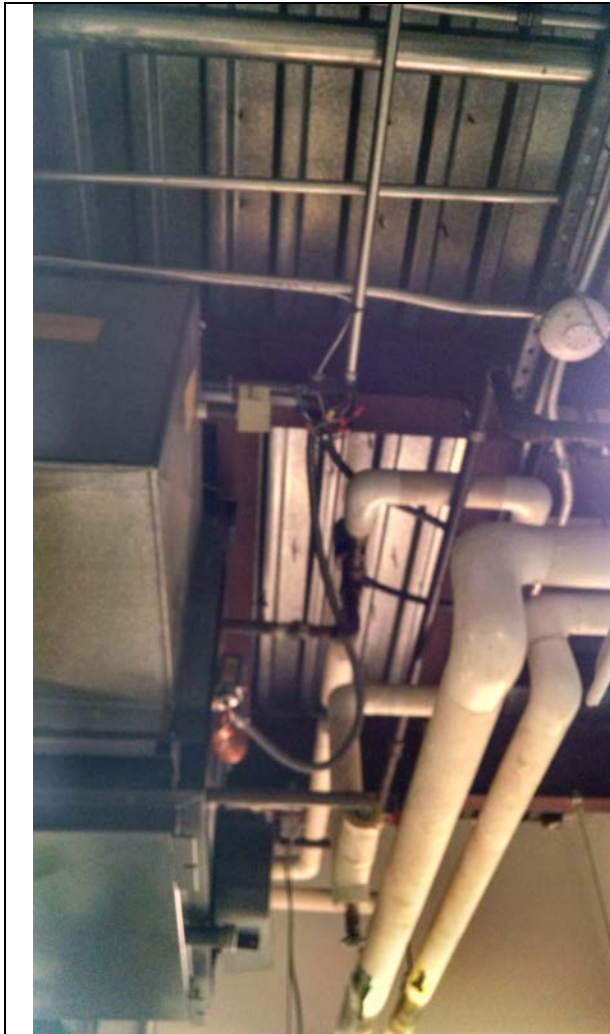


5. Mold Growing on Sheetrock wall In Mechanical Room



6. Mold Growing on Sheetrock around gas pipe in Salvage Office

EXHIBIT 'D'



7. Open Junction Box Near Salvage Office



8. Water Stain on Ceiling Tile; Office Overseeing Lanes

EXHIBIT 'D'

History

The Office of Health & Safety has documented and reported on visible mold at the Winslow Specialty Site since 2008. Mold was abated in 2009 but has grown back. Extensive investigation was undertaken by the OH&S to identify the root cause of the mold growth. Consulting engineers were hired to retro-commission the heating ventilation and air conditioning system to determine the root cause of an elevated moisture condition. The consulting engineers determined the heating ventilation and air conditioning (HVAC) system was the cause of the condition, which needs extensive overhauling to prevent elevated moisture levels at an approximate cost of \$29,700.00. No office building roof leaks were identified during the extensive investigation and are not the cause for the continued high humidity and moisture problem in the facility. The Office of Health & Safety is unaware of any work performed since 2012 to mitigate the high humidity and resultant mold growth problem at the Winslow facility.

Purpose

Visible mold growth has been present growing on a number of surfaces in the Winslow Specialty Inspection Facility for many years. An extensive facility investigation was conducted and reported on, and recommendations for mitigation was provided by the Office of Health & Safety in 2012.

Visible mold/microbial growth must be remediated according to the New Jersey Administrative Code [N.J.A.C. 12:100-13.4(d)]. The employer (MVC) must control microbial contamination in the building by promptly repairing water intrusion that can promote the growth of biologic agents[N.J.A.C. 12:100-13.4(b)].

The malfunctioning HVAC system is the cause for the mold growth in and around the diffuser vents, drop ceiling/splines and upper wall areas. The mold growth in the Salvage office is due to water infiltration through the gas pipe hole, and brick wall/concrete slab interface gaps. The mold growth in the mechanical room is the result of a leaking boiler backflow preventer piped to the floor causing standing water.

Impact

Mitigating this issue will eliminate employee risk for adverse health effects caused by exposure to bioaerosols produced by microbial activity. Civil administrative penalties of up to \$7,000.00 per day for each violation not abated may be assessed by the Public Employee Occupational Safety & Health Administration (PEOSH). Resources from New Jersey Department of Treasury Division of Property Management & Construction may be needed to complete this project. Depending on how long it will take to remediate the mold; the site may have to close for a period of 2 weeks impacting Enhanced Inspection and Road Testing services operated out of the facility.

Additional Information

The following assessment work and associated costs estimates were completed and reported on by the Office of Health & Safety in 2012. The status on any follow up work conducted by Facilities Management to mitigate the problems is unknown to the Office of Health & Safety at this time, however, mold is still present.

Recommendations

- Remediate the mold and make needed repairs to the HVAC system and Facility to prevent a mold reoccurrence. Minimum action: abate mold.
- Close wall openings in Salvage Office.
- Close open junction box near Salvage Office.
- Identify and repair source of water in Lane Office.

c: Jeanne Ashmore, Deputy Chief Administrator
Jacquelin Passarelli, Executive Assistant 2
Tom Bednarz, Director, Enhanced Inspection