

SECTION 01013 - SUMMARY OF THE WORK - ASBESTOS ABATEMENT**PART 1 - GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. **The Project** consists of interior asbestos abatement at the Delcastle Technical High School as follows:
1. **Project Name:** 2022 Asbestos Abatement for the HVAC Renovations Project at Delcastle Technical High School.
 2. **Project Location:** 1417 Newport Road, Wilmington, Delaware 19804.
 3. **Owner:** New Castle County Vocational School District, 1417 Newport Road, Wilmington, Delaware 19804.
 4. **Asbestos Abatement Work Period:** The work needs to be performed while building is in use with phasing using a designated timeline sequence for the Basement, First and Second floor locations within the C-Wing. The start date and finish date of each work period is contingent upon moving the occupants and contents from work areas prior to asbestos abatement. Other non-work areas within the school building will be occupied. The project is divided into eight (8) phases starting in December 2022 and ending in August 2024. Each work phase has a distinct start and finish date listed but may change based upon project conditions and includes not only asbestos abatement but other activities. The Construction Manager will coordinate the phasing and timeline requirements and provide the Contractor with a 48-hour notice for mobilization into the designated work area. Each phase will require the Contractor to use designated access points for ingress and egress into work areas. All of the work in each phase must be completed prior to beginning the next phase. The Contractor will be given three (3) calendar weeks to complete each phase including the weekends during that time period if needed. Working hours shall be from 3:00 p.m. to midnight Monday through Friday and weekends 6:00 a.m. to 4:00 p.m.. Substantial completion of the project must be achieved at the end of each work phase.
 5. **Desired Work Schedule:** The Owner desires that all work be completed as soon as possible without the addition of overtime hours. The Contractor shall start and complete the project in this desired sequence:
 - a. Start and complete asbestos abatement activities in each work phase. The approximate start and finish dates of each work phase are listed in this specification.
 - b. The Contractor will be given three (3) calendar weeks to complete each phase including the weekends during that time period if needed. The CM will provide the Contractor a 48-hour notice to proceed for each work phase.
 - c. Install plastic sheeting on hard barrier walls extending from the floor above the drop ceiling to the floor decking prior to asbestos abatement to contain each phase work area. The hard barrier walls will be constructed by Other and will be installed prior to the start of the asbestos abatement work.
 - d. Isolate all doorways leading into common areas and hallways with plastic sheeting prior to starting the abatement.

6. **Master Schedule Work Phases:** Based upon the current project master schedule, the timeline for each of the work phases on this project is anticipated as follows. It is anticipated that the asbestos abatement work period will be within this date range for each project phase:
 - a. Phase 1: December 27, 2022 to March 23, 2023.
 - b. Phase 2: March 24, 2023 to June 20, 2023.
 - c. Phase 3: June 21, 2023 to August 29, 2023.
 - d. Phase 4: June 21, 2023 to August 29, 2023.
 - e. Phase 5: August 30, 2023 to November 24, 2023.
 - f. Phase 6: November 27, 2023 to February 21, 2024.
 - g. Phase 7: February 22, 2024 to May 20, 2024.
 - h. Phase 8: May 21, 2024 to August 15, 2024.
 7. **Prevailing Wage Rates:** Current State of Delaware Prevailing Wage Rates are in effect. Wage rates are provided in the specification. The project is in New Castle County. (Part II., General Specifications)
 8. **Liquidated Damages:** No liquidated damages for this project.
 9. **Owner's Representative:** Compliance Environmental, Inc. (CEI) will represent the Owner on this project.
 10. **Construction Manager:** Whiting-Turner (WT) is the Construction Manager on this project.
- B. Contract Documents,** dated July 12, 2022 were prepared for the Project by Compliance Environmental, Inc., 150 South Bradford Street, Dover, Delaware 19904, CEI Project Number CEI-071222 and Master Project Number NCC2208DTS. Conditions and requirements are indicated on the Contract Documents including, but not limited to, this specification, drawings, and any addenda to the specifications.
- C. The Work** consists of the removal of asbestos-containing materials as listed on Table 1 of these specifications and shown on the drawings. The work also requires the removal of non-asbestos-containing building materials to access asbestos-containing materials. This work is being performed in preparation for remediation of the building. All asbestos-containing materials and assumed asbestos-containing materials must be removed on this project. The Contractor shall comply with all current requirements, procedures, standards, ordinances and regulations according to all Federal, State, County, Municipal, and local authorities including, but not limited to, 40 CFR 763, 40 CFR 61, 29 CFR 1910 and 29 CFR 1926.
1. **Work to be Performed Under This Contract:** includes complete removal and proper disposal of all asbestos-containing and asbestos-contaminated materials at the Delcastle Technical High School shown on the drawings and Table 1. Asbestos locations and assumed asbestos locations are shown on Contract Documents prepared by Compliance Environmental, Inc. The bulk sampling information is provided for reference.

The Contractor shall include in its bid, the cost of removal and disposal of all layers needed to be removed to access and completely remove all confirmed and assumed asbestos-containing materials at locations as shown on the drawings and listed within this specification.

The Contractor shall provide the necessary federal, state, municipal and local notifications regarding asbestos-abatement activities within the time requirements set forth by those agencies. The Contractor shall submit to the Owner's Representative a copy of all notices sent to any agencies within 48-hours after submitting any notice.

The total estimated asbestos-containing materials to be abated and location is shown on the attached Table 1. Table 1. shows the location and estimated quantity of positive and assumed asbestos-containing building materials that require abatement. **The Contractor shall provide in its lump sum cost for the project, all of the work included on the drawings and in Table 1, plus all other requirements in the Contract Documents.**

2. **Work to be Performed Prior to Work Under This Contract:** The Owner shall remove non-fixed articles (e.g., furniture, computers, boxes) from work area(s) that are not contaminated. Applicable contaminated non-fixed articles requiring service by the Contractor are listed in the specification. Any small amount of debris remaining in work areas shall be moved to non-work areas prior to the start of any asbestos abatement work by the Contractor at no additional cost to the Owner.
3. **Project Site Notices:** The Contractor shall provide, as a minimum and at all times, at a visible location at the project site, the following:
 - (i). Equal Employment Opportunity and Minimum Wage Information
 - (ii). U.S. EPA 10-Day Notification
 - (iii). State of Delaware DNREC 10-Day Notification
 - (iv). State of Delaware Prevailing Wage Determination
 - (v). Site Supervisor and Worker Badges
 - (vi). Air Sampling Results (if any)
 - (vii). Emergency Planning Procedures
 - (viii). Subcontractor List
 - (ix). Material Safety Data Sheets
4. **Submittals Prior to Site Work:** The Contractor shall provide the following items to the Owner's Representative prior to asbestos abatement:
 - (i). Signed Contracts.
 - (ii). Signed Payment and Performance Bonds.
 - (iii). Certificate of Liability Insurance.
 - (iv). Copy of the U.S. EPA 10-Day Notification.
 - (v). Copy of the State of Delaware DNREC 10-Day Notification.
 - (vi). Project Schedule.
 - (vii). Completed Initial Exposure Assessment Form (Appendix C, Section 01562)
 - (viii). Completed Certificates of Site Worker's Acknowledgment Forms (Appendix C, Section 01560).
 - (ix). Complete list of Project Supervisors and Workers including names and addresses.
 - (x). Fit test results, medical results, and certifications for Project Supervisors and Workers.
5. **Assumed Asbestos Materials:** The project contains assumed asbestos-containing materials as shown in the specification. The Contractor shall include in its bid the cost of complete abatement and proper disposal of all assumed asbestos-containing materials.
6. **Unit Prices:** The unit prices listed on the bid form could be used to adjust the Contractor's base bid and alternates, add or deduct, for changes in quantities on the project. However, the Owner reserves the right to accept or reject any or all listed unit prices and to ask the

Contractor to provide other pricing based upon project conditions.

7. **Measurements and Dimensions:** It is the Contractor's responsibility to verify all measurements prior to the openings of the bids. Any discrepancies in the measurements or work site conditions must be made prior to the opening of the bids.
8. **Work Area Security & Protection:** In performing the work, the Contractor is responsible for the security of the work area and protection of any and all equipment, materials, and surfaces not scheduled for work activities. The Contractor shall not be provided with a key to building(s) where work is to be performed. It is the Contractor's responsibility to adequately barricade, sign and control access to work areas in such a way to prevent accidental access to work areas.
9. **Damage Repair & Missing Item Replacement:** The Contractor shall repair or replace, at his own expense, any damage occurring during his activities to any building component not scheduled for asbestos abatement or movement. Any damaged or missing items will be replaced or paid for by the Contractor prior to receipt of final contract payment.
10. **Payment Requests:** The Owner's Representative shall review and recommend payment of all invoices from the Contractor. Invoices shall be submitted by the Contractor in a form acceptable to both the Owner's Representative and Owner.
11. **Critical Barriers:** Critical barriers consisting of two (2) single layers of 6-mil polyethylene sheeting applied separately by the Contractor with varying tape lines shall be installed, as a minimum, at ventilation systems, doors, windows, electrical wall switches and receptacle, and other openings in the work area. See Section 01526 for more information.
12. **Ventilation Systems:** The Contractor shall completely immobilize any ventilation systems in work areas by, as a minimum, by sealing supply and return ducts with critical barriers, locking and tagging the system "off," notifying building operators, and providing proper labeling. See Section 01513 for more information.
13. **Toilet Facilities:** The Contractor shall provide, at his own expense, toilet facilities for his use during the project.
14. **Waste Handling, Labeling and Disposal:** All asbestos materials shall be thoroughly and adequately wetted and double-bagged in 6-mil poly bags with both bags goose-necked or in double-layers of 6-mil poly for waste which will not fit into bags. All waste shall be sealed in a manner to prevent the contents of the bag from escaping. Double bagging within the work area inside of the containment is prohibited. Waste shall be wetted and placed into a single bagged (or poly wrap) inside of the containment work area and then moved out of the work area to the waste bag out area where the waste will be double bagged. The double bag shall also be goose-necked. All waste shall be properly handled and labeled for disposal by the Contractor. All asbestos-containing and contaminated materials shall be properly handled, labeled stored, transported and disposed by the Contractor in accordance with all federal, state, and local laws, regulations, ordinances, guidelines and the requirements of this specification and the waste disposal facility requirements. Prior authorization is required prior to the Contractor using any open-top dumpsters on the project for asbestos-containing or assumed asbestos-containing wastes.

15. **Used of Amended Water:** The Contractor shall use amended water during all asbestos abatement activities. **Dry removal is prohibited on this project.** Care shall be taken by the Contractor considering the right amount of water required not to create leaking conditions or hazards to the work area or surrounding area, including the ceiling of the first floor. The Contractor shall ensure that proper back-flow protection at all sources of water are installed and maintained.
16. **Personal Protective Equipment:** Don personal protective equipment prior to entering the containment area. Personal Protective Equipment (PPE) shall include as a minimum, full-body coveralls, head and foot covers, and full-faced PAPRs. Contractor employees shall not remove any PPE while in the containment.
17. **Containments, Negative Air Controls and Decontamination Units:** Install a three-stage decontamination unit, with a shower, at the entrance to the work area containments. The decontamination units shall be installed in such a manner as to allow for separate equipment room and bag-out area located off to the side. **In No Instance Will the Personal Decontamination Unit Be Used for Bag-out or Equipment Passage.** The Contractor shall install and maintaining Z-flaps at all entrances and exits at the containments. All containments shall have viewing ports according to State of Delaware regulations installed by the Contractor at several locations to adequately view all work areas from outside of the containments. All containments shall have labeled emergency exit locations (kick outs) to allow containment occupants to exit at locations other than the single entry and exit locations of the decontamination unit. All containments shall have “asbestos danger signs” near all entrances and exits, and the emergency contact list. As a minimum, all workers shall shower at the end of each shift. The Contractor shall inspect and ensure the integrity of all decontamination facilities daily on the project. All decontamination procedures shall be strictly implemented by the Contractor. Shower wastewater shall be either filtered or jelled. All filters and/or jelled water shall be disposed by the Contractor as contaminated waste. The Contractor shall place a fire extinguisher and have a first aid kit at each containment. An additional fire extinguisher shall be provided by the Contractor and placed at the entrance of each containment when containments exceed 1,000 square feet. Temporary ground fault electrical panels shall be installed outside of containment areas and used by the Contractor for all electrical connections. The Contractor shall use waterproof lights inside of all work areas. The Contractor shall install and operate HEPA filtered air filtration devices. Pre-clean any areas needing critical barriers, and install critical barriers. All work areas shall have critical barriers consist of two (2) layers of 6-mil plastic sheeting at all openings. Layers shall be applied separately by the Contractor with varying tape lines. Establish and maintain at all times a minimum pressure differential of minus 0.02 inches of water measured on a strip chart recorder or other approved method. The air exchange rate within all containments shall be at least four (4) air changes per hour. The pressure differential recorder shall be checked several times daily by the Contractor. The Contractor shall supply a calibrated differential pressure manometer capable of monitoring and recording on a strip chart and measuring differential pressure of 0.005 inches of water. The manometer shall be equipped with an automatically activated alarm system which will sound a warning if the pressure rises above the minimum value. All strips charts shall be submitted to the Owner’s Representative by the Contractor at the completion of the project. **Work will not begin or continue until an adequate differential pressure is achieved and maintained. It is the Contractor’s responsibility to adequately monitor the differential pressure in all containments and make the necessary adjustments needed to maintain the specified requirements.**

18. **Mini-Containments:** Mini-containments shall only be used where specified. The mini-containment shall be a free-standing structure constructed of a single layer of 6-mil plastic sheeting on the floor, ceiling and walls of the structure. The containment shall have a three-stage decontamination unit, with a shower, at the entrance to the containment and have negative air controls to establish and maintain at all times a minimum pressure differential of minus 0.02 inches of water. The containment shall have “asbestos danger signs” near all entrances and exits. All decontamination procedures shall be strictly implemented by the Contractor.
19. **Barrier Walls:** A temporary hard barrier wall will be installed by Others in the hallways prior to mobilization of the Contractor where applicable to separate the work area from occupied spaces. The barrier wall will extend from the floor to the bottom of the drop ceiling. The Contractor shall install a single layer of 6-mil polyethylene sheeting on the barrier wall within the work area and from the top of the barrier wall to the bottom of the decking to provide an air tight seal to prevent migration of contaminated dust from crossing the barrier wall and outside of the work area.
20. **Controlling Spaces Above the Work Area:** In each work area, the Contractor shall install a double-layer of 6-mil polyethylene sheeting from the floor to the bottom of the decking as part of the containment to provide an air tight seal to prevent migration of contaminated dust from crossing the barrier wall and outside of the work area.
21. **Hallway Access:** Exterior access doors and hallways will be assigned for each phase of the work. Hallway access to classrooms from exterior doors will be used by containing half of the hallway not to block ingress or egress. The Contractor shall access the work area from one designated point. For access to pipe coverings in this area, the Contractor shall remove and replace the drop ceiling tiles. Critical barriers shall be installed at all hallway vents and openings prior to installing a tunnel to provide access from the entry point to all work areas. The tunnel shall be made of a single layer of 6-mil polyethylene sheeting covering the ceiling, walls and floors. An additional drop cloth shall be installed by the Contractor in the tunnel and in all work areas. Any damage to existing building features shall be repaired or replaced at the Owner’s discretion and at the Contractor’s expense.
22. **Work Areas:** A centrally located hallway decontamination shower unit can be used. The ventilation system within the work area shall be isolated by the Contractor from other systems outside of the work area by verifying that systems are off, locked-out and tagged-out, and the two layers of 6-mil polyethylene sheeting are installed on all openings prior to constructing containments. All work areas shall have in addition to the containments a drop cloth. All work areas shall be in containment with negative air controls. The negative air exhaust shall be filtered and discharged outside of the building. All first floor locations shall have temporary plywood installed at the exhaust locations to prevent entry into the building. All work in the work areas shall be in containment. All containments shall be constructed and removed by the Contractor after clearance is granted. Containment shall consist of two layers of 6-mil polyethylene sheeting on the walls and floors.
23. **Drop Ceilings and Track:** Within the classrooms only, remove and dispose of necessary ceiling tiles and track to access the work. Hallway ceiling tiles and track shall remain undamaged. The Contractor shall install temporary wire supports for lighting fixtures within the work area prior to removing the track.

24. Removal Procedures:**(i). Asbestos-Containing Surfacing Material Removal:**

Remove of all surface asbestos-containing materials in work areas down to plaster and steel at all locations shown on the drawings. Preserve the plaster substrate and wooden nailer board behind the plaster for finishing by Others. Remove all asbestos-materials splatter and over-spray on decking, beams, metals, ventilators and other material within the work area. If not performing the work in an existing containment, building a containment consisting of two (2) layers of 6-mil plastic sheeting as critical barriers and one (1) layer of 6-mil plastic sheeting on ceilings, walls and floor. Install an additional layer of 6-mil plastic sheeting on the floor as a drop cloth layer. All layers shall be applied separately by the Contractor with varying tape lines. Install negative air controls and decontamination units as specified. Once negative air is established, the Contractor may start removing the surfacing materials. **Any removed surfacing material shall not be dropped more-than 2-vertical feet from it's original location to the waste disposal bag or drum. If fiber counts are found to be approaching action levels, the Contractor shall perform the work using Type C Grade D air respiratory protection.** The Contractor shall protect, at all times, walls, floors, and moldings. All waste shall be handled, labeled and disposed as specified. Final inspection shall consist of a visual inspection and air sampling. All daily air sampling will be laboratory analyzed by Phase Contrast Microscopy (PCM) methods unless the Owner or State Agency requires other methods. Final air clearance samples will be by Transmission Electron Microscopy (TEM). See Sections 01013, 01529, 02081, 02087 and other specification sections for more information.

(ii). Removal and Disposal of Ceiling-Mounted Unit Ventilators, In-Line Ventilators and Small Coil Units:

Remove and dispose of all ceiling-mounted unit ventilators, in-line ventilators and small coil fan units shown on the drawings. All units have asbestos-containing materials over-spray and some units have internally installed asbestos-containing materials which must be removed. Wrapping and taking of units is allowed. If units are to be dismantled prior to loading for disposal, all dismantlement must be performed in full containment with negative air controls and decontamination station. Some units could not be opened for a complete inspection and assumed to contain asbestos-containing materials. Electrical connections and liquid purging of the units will be performed by Others prior to asbestos abatement. After disconnection and purging, the asbestos abatement Contractor shall verify that all systems are purged and electrical connections locked out and tagged out. The Contractor shall disconnect vent pipes and carefully lower the unit ventilators and small fan coil units to the floor, double-wrap, wetted, labeled and properly dispose of the units. If the units need to be disassembled to remove from the work area, it must be done in containment using full negative air controls and decontamination unit. Prior to leaving containments, all unit ventilators, in-line ventilators and small fan coil units must be double-wrap, wetted, labeled and ready for proper disposal. Units shall not be salvaged or recycled. All vent pipes and openings shall be sealed with critical barriers prior to performing asbestos abatement. All vent pipes must be preserved for later use. The Contractor shall protect at all times, walls, floors, ceiling and all other building features. If not performing the work in an existing containment, install containments, negative air controls and decontamination units as specified. Build a containment

consisting of two (2) layers of 6-mil plastic sheeting as critical barriers and one (1) layer of 6-mil plastic sheeting on ceilings, walls and floor. Install an additional layer of 6-mil plastic sheeting on the floor as a drop cloth layer. All layers shall be applied separately by the Contractor with varying tape lines. Install negative air controls and decontamination units as specified. The Contractor may use wrap and take procedures in lieu of gross removal. All waste shall be handled, labeled and disposed as specified. Final inspection shall consist of a visual inspection and air sampling. All daily air sampling will be laboratory analyzed by PCM methods unless the Owner or State Agency requires other methods. Final air clearance samples will be by TEM. See Sections 01013, 01529, 02081, 02087 and other specification sections for more information.

25. **Abatement Activities:** All abatement of asbestos containing materials shall be performed in a proper wetted condition using amended water and be completed by the Contractor in accordance with this specification. Dry removal of asbestos containing materials is not permitted. See Section 01527 and 02081 for more information. The Contractor shall take the necessary precautions to protect all computer, fiber optic and electronic equipment including building sensors from damage during the Contractor's activities and also including, but not limited to, walls, ceilings, floors outside work areas, doors, thresholds, and fixed objects within work area(s). Any damaged painted surfaces shall be repaired at the Contractor's expense.
26. **Decontamination Units:** Three-stage decontamination stations (units) will be erected, operated, maintained, and removed by the Contractor. All decontamination procedures shall be strictly implemented by the Contractor. The decontamination stations will be erected in such a manner to allow for a secured entrance during non-working hours. At no time will workers move around outside of the work area without clothing. At no time will equipment be moved out of containment decontamination. The equipment and bag-out room must be used for equipment movements. No "pop-up" portable decontamination units will be allowed unless approved in writing. See Section 01563 for more information.
27. **Bag-Out:** Bag-out activities shall be completed by the Contractor prior to the end of the work day. All waste must be removed from work areas prior to the end of each work day. At no time will the workers be allowed to move around outside of the building in abatement coveralls with exception to bag-out activities, prior to midnight at the end of each shift. All waste shall be double bagged or double wrapped and shall be leak-proof. All bags shall contained amended water shall have a goose-neck seal and a label. All wrapped waste shall contained amended water and labeled. See Section 01527 for more information.
28. **Air Sampling:** All daily air sampling will be laboratory analyzed by Phase Contrast Microscopy (PCM) methods unless the Owner or State Agency requires other methods. Final air clearance samples will be by visual inspection and/or PCM. See Section 02081 and this specification for more information.
29. **Aggressive Air Sampling:** The Contractor shall provide, at no additional cost to the Owner, the leaf blower(s) and fan(s) required by the Owner's Representative to perform proper aggressive air sampling.

30. **Waste Disposal:** All asbestos-containing materials and contaminated asbestos-containing materials shall be properly handled, labeled, stored and disposed by the Contractor at the licensed and permitted landfill. The Contractor shall utilize the landfill and transporter written on the bid form for this project without substitution. Any changes proposed by the Contractor must be have prior approval by the Owner or Owner's Representative before a substituted landfill or transporter is used on the project. All non-asbestos-containing or non-asbestos-contaminated wastes shall be properly and safely stored by the Contractor prior to disposal. Waste shall be stored in a manner which does not block ingress or egress of the building, rooms, closets, doors or windows and does not pose a fire or safety concern as determined by the Owner or the Owner's Representative.
31. **Lock-Down:** All non-visible asbestos residue shall be encapsulated with a coating of penetrating encapsulant applied in strict accordance with the manufacturer's directions prior to clearance air sampling. The lock-down must be completely dry prior to clearance air sampling. The Contractor shall provide a schedule for the application of lock-down to the Owner's Representative prior to application. See Section 01527 for more information.
32. **Use of Drawings:** All drawings provided in the Specification are diagrammatic, not to proportion and are not to scale. Drawings are provided to the Contractor for reference purposes. The Contractor shall develop and verify the actual quantities and locations required for all of the work and consider these actual quantities when preparing its bid.
33. **Work Areas adjacent to Occupied Areas (if applicable):** When asbestos abatement work areas are adjacent to occupied areas, the Contractor shall install and maintain wooden partitions which extend from floor to ceiling with lockable access doors to prevent occupants from entering into work areas.
34. **Scaffolding, Lifts and Ladders:** If scaffolding is used, the Contractor must erect, use, and disassemble the scaffolding in accordance with OSHA Standards. Additionally, all lifts and ladders shall meet and be used in accordance with OSHA Standards. The Contractor shall insure that floors and all other building components are protected during the use of scaffolding, lifts and ladders. The Contractor shall use only trained personnel when using scaffolding, lifts and ladders.
35. **Exhaust from Negative Air Machines (if applicable):** Windows, doors or other building openings used to exhaust negative air shall be protected by the Contractor by installing plywood and bracing if the opening is located on the first floor or below. The plywood and bracing shall be installed in a manner by the Contractor that prevents damage to the building components and prevents unauthorized access into the building.
36. **Permanent Objects in the Work Area (if applicable):** Where permanently mounted objects are present in the work area, that Contractor shall protect these objects from contamination and damage from their activities. However, window and/or wall mounted HVAC units could contain asbestos-containing materials. The Contractor shall remove covering on HVAC units to inspect, remove and dispose of all asbestos-containing materials included, but not limited to, floor tiles, floor covering, pipe insulation and heat shields.

37. **Electric Power:** All electric power shall be shut down in each work area where possible. The Owner shall provide limited low voltage temporary electric service (single phase, 120-volt, 100 amp circuit source). The Contractor shall provide the Owner with their specifications within ten (10) calendar days prior to scheduling the start of work. The Owner shall provide a plug type outlet within 300 feet of work locations. Adequate extension cords shall be provided by the Contractor. Temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in each work area shall be provided by the Contractor. If required by the Contractor, a licensed electrician shall be provided, at no additional cost, for making electrical connections and disconnections.
38. **Water Service:** The Owner shall provide limited cold water service for small connections (3/4-inch hose maximum). The Contractor shall provide, at no additional cost to the Owner, all necessary connections and ensure proper back-flow protection. Hot water heaters shall be supplied and operated by the Contractor at no additional cost to the Owner. The Contractor shall be responsible for turning on and off valves at their point of connection.
39. **Visitor Personal Protective Equipment:** The Contractor shall provide, at no additional cost to the Owner, respirators, disposable coveralls, head covers, and foot covers all at new condition.
40. **Contractor Project Staffing:** A minimum of three (3) asbestos personnel are required to be present at the project site at all times. The Contractor's on-site supervisor must be able to make timely decisions for this company. **Prior to any site activity, the Contractor shall submit the name and address of each supervisor, worker and any other person he intends to use at the project site for informational screening (e.g. registered sex offenders list and other lists) by the Owner. The Contractor shall be notified by the Owner if their personnel will be allowed to work at the project site based upon the results of the screening. The New Castle County Vocational School District reserves the right to reject any proposed Contractor personnel for this project.** (Section 01043)
41. **Project Supervisor:** During all asbestos abatement work, a State of Delaware licensed Supervisor, employed by the Contractor, shall be on site at all times. The licensed Supervisor shall maintain all daily records as required.
42. **Project Monitor Must Be On-Site:** The Contractor shall not begin or continue work for any asbestos abatement related activities until a certified Project Monitor is resident on site. The Project Monitor must be on site at all times during asbestos abatement related activities. The Contractor shall provide adequate notice to the Professional Service Firm providing the Project Monitor. Adequate notice is the period of time agreed to by the Contractor and Professional Service Firm.
43. **Damage Repair:** The Contractor shall repair or replace, at his own expense, any damage occurring from his activities for items the Owner desires to save prior to demolition or any building component. Any damaged items will be replaced or paid for by the Contractor prior to receipt of final contract payment.

44. **Stop Work:** If the Owner, or the Owner's Representative presents a written stop work order to the Contractor, the Contractor shall immediately stop all work in a fashion not to create an asbestos exposure hazard to workers, building occupants, or others. See this Section for more information.
45. **Building and Property Usage:** The contractor shall not unreasonably encumber the site with materials or equipment and may be required to share the project site with others. Stockpile of materials at locations after approved by the Owner's Representative. If additional off-site storage is needed by the Contractor, the off-site storage will be provided by the Contractor at no additional cost to the Owner. Smoking or open fires will not be permitted within the building. Alcoholic beverages and non-prescription drugs use is prohibited within buildings or on the property. No permanent modifications shall be made to any building component, sidewalk, parking area, signage, or any other appurtenances without expressed written permission from the Owner. See this Section for more information.
- D. **Single Prime Contract:** The Work will be constructed under a single prime contract. The Contractor shall not sublet this contract without expressed written permission from the Owner. Any subcontractors used by the Contractor must have been listed on the bid form. No substitution will be allowed without written permission from the Owner or Owner's Representative.
- E. **Pre-abatement assessment:** A comprehensive pre-abatement assessment will be completed by the Contractor, Owner's Representative, and any other individual authorized by the Owner. An agreed list of damage to structures, surfaces, equipment shall be developed and agreed upon prior to the commencement of work by the Contractor.
- F. **Contaminated Areas:** Any areas found to be contaminated in the opinion of the Owner's Representative or Owner after the removal of asbestos containing material shall be decontaminated using a combination of HEPA vacuum and wet cleaning techniques by the Contractor at no additional expense to the Owner.
- G. **Plan of Action:** The Contractor shall submit a detailed plan of action which details proposed procedures used for complying with all of the requirements of this specification. Included in the plan shall be the location and layout of decontamination areas, the sequence of asbestos work, the interface of all trades, methods used to ensure safety of the workers, building occupants, and visitors to the site, and a detailed description of methods that will be used to control pollution.
- H. **Potential Asbestos Hazard:** The disturbance of asbestos-containing materials may cause asbestos fibers to be released into the building and/or exterior atmosphere thereby creating a potential health hazard to workers, building occupants, and others. The Contractor shall inform all workers, supervisors, subcontractors, and Owner's Representatives who will be at the project site of the seriousness of the hazard and of proper work procedures which must be followed. The Contractor shall, continuously and at all times, take the measures necessary including, but not limited to, procedures, work practices, and methods, to ensure complete compliance with federal, state, and local regulations and eliminate the potential for asbestos exposure.

- I. Site Safety:** The Contractor shall at all times comply with all applicable federal, state and local, laws and regulations, including environmental, health and safety laws and regulations, pertaining to its services. The Contractor represents it is familiar with all aspects of the job site (including but not limited to site conditions and site access limitations) and hazards associated with asbestos removal and abatement. The Contractor shall be solely responsible for the safety of its personnel, subcontractors or any third party in its work areas or common areas and Contractor hereby releases and indemnifies Client and Owner's Representative from any and all claims brought by, or on behalf of itself, its employees or its subcontractors arising out of or in connection with its Contractor's services or presence at the job site. Prior to the start of daily work, and at the conclusion of each day, the Contractor shall visually inspect his work areas and all areas required to access his work areas. Any unsafe conditions found during any inspection shall be reported to the Owner's Representative immediately in writing subsequent to each inspection. The report provided by the Contractor to the Owner's Representative shall adequately describe the unsafe condition and the procedures the Contractor has immediately taken to correct the unsafe condition. The Contractor shall promptly report any and all accidents to the Owner's Representative in writing, and shall include sufficient details regarding the accident and procedures implemented by the Contractor to prevent similar accidents. The Contractor shall be responsible for reporting accidents to the appropriate regulating agency as may be required by applicable law or regulation.
- J. Specification Sections:** The work includes the removal of asbestos-containing materials according to the requirements provided in the following specification sections:
1. General and Administrative Requirements:
 - 01013: Summary of the Work–Asbestos Abatement
 - 01043: Project Coordination–Asbestos Abatement
 - 01097: Reference Standards and Definitions–Asbestos Abatement
 - 01098: Codes, Regulations and Standards–Asbestos Abatement
 - 01301: Submittals–Asbestos Abatement
 - 01601: Materials and Equipment–Asbestos Abatement
 - 01632: Product Substitutions–Asbestos Abatement
 - 01701: Contract Closeout–Asbestos Abatement
 2. Abatement Work:
 - 01503: Construction Facilities and Temporary Controls–Asbestos Abatement
 - 01513: Temporary Pressure Differential & Air Circulation System
 - 01526: Temporary Enclosures
 - 01527: Regulated Areas
 - 01529: Mini Enclosures and Glovebags
 - 01560: Worker Protection–Asbestos Abatement
 - 01562: Respiratory Protection
 - 01563: Decontamination Units
 3. Asbestos Removal Work Procedures:
 - 02081: Removal of Asbestos-Containing Materials
 - 02084: Disposal of Regulated Asbestos Containing Material
 4. Decontamination of Work Areas:
 - 01711: Project Decontamination
 - 01712: Cleaning and Decontamination Procedures

1.3 WORK SEQUENCE

- A. The Work** will be conducted in distinct phases at each abatement location.
1. Each work phase shall consist of pre-cleaning, establishing of work areas, installation of engineering controls, abatement, post abatement inspection and sampling.
 2. The following inspections will be performed by the Contractor and Owner's Representative simultaneously for project activities:
 - a. Pre-Cleaning: A visual inspection of all pre-cleaned surface areas. This inspection will occur prior to the installation of polyethylene sheeting on walls, floors, and other surfaces. Decontamination units must be operable and critical barriers installed prior to pre-cleaning activities.
 - b. Work Area: Work areas will be visually inspected each day prior to the start of work activities and upon work completion each day to insure that the integrity of the containment is in compliance with these specifications. This inspection does not relieve the Contractor of their responsibilities of performing the work in accordance with these specifications.
 - c. Post Abatement: A visual inspection of each work area will be performed following successful clearance air sampling and prior to commencing containment tear-down.
 - d. Substantial Completion: After completion of all applicable demolition, reinstallation, cleaning, and all other asbestos abatement activities, a final inspection will be performed after final cleaning of all work areas prior to re-occupancy of said areas by the Owner.

1.4 ASBESTOS-CONTAINING MATERIALS:

- A. The Work** of this contract involves activities that will disturb asbestos-containing materials (ACM). The location and type of ACM known to be present at the worksite is set forth in the "Schedule of Asbestos-Containing Materials" at the end of this section. If any other ACM or PACM is found, notify the Owner's Representative, other employers and employees about the location and quantity of the ACM or PACM immediately upon discovery.
- B.** Asbestos-containing building materials are known to be present at the project site. If the Contractor finds any other material which are suspected of containing asbestos, the Contractor shall immediately notify the Owner's Representative. See the attached Table 1. for a summary of confirmed asbestos-containing materials at the site. The Contractor is responsible for the proper removal, handling and disposal of all confirmed asbestos-containing materials at the site.
- C.** Assumed asbestos-containing building materials are identified at the project site. See the attached Table 1. for a summary of assumed asbestos-containing materials at the site. The Contractor is responsible for the proper removal, handling and disposal of all assumed asbestos-containing materials at the site.

1.5 ASBESTOS HEALTH RISK:

- A. The disturbance or dislocation of ACM may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health risk to workers and building occupants. The Contractor shall inform all workers, supervisory personnel, subcontractors and Owner's Representatives who will be at the job site of the seriousness of the risk and of proper work procedures which must and will be followed.
- B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or Owner's Representatives may encounter, disturb, or otherwise function in the immediate vicinity of any identified ACM, take appropriate continuous measures as necessary to protect all building occupants from the risk of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.

1.6 CONTRACTOR USE OF PREMISES

- A. **Use of the Site:** Limit use of the premises to work in areas indicated. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.
 - 1. **Owner Occupancy:** Allow for Owner occupancy and use by the public.
 - 2. **Driveways and Entrances:** Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- B. **Use of the Existing Building:** Maintain the existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.
 - 1. **Use of Existing Elevators (if applicable):** Except for the Freight Elevator, use of elevators by the Contractor will not be permitted. The Contractor will be permitted to use the freight elevator for temporary freight service and the transportation of construction personnel during the construction period. This elevator must also be available to the Owner at all times; coordinate freight elevator usage with the Owner or Owner's Representative. Provide protective pads for the elevator car and other appropriate protective measures for the car and entrance doors and frames. During asbestos abatement activities the car is to be protected as set forth in the Division 1 Section on Temporary Enclosures.
 - 2. **Smoking:** Smoking or open fires will not be permitted within the building enclosure or on the premises.
 - 3. **Toilet Rooms (if applicable):** Except for toilet rooms designated for use by the Contractor's personnel, use of existing toilets within the building, by the Contractor's personnel, will not be permitted. If not toilet rooms are designated for this project, the Contractor shall provide temporary toilet facilities.

1.7 OCCUPANCY REQUIREMENTS

- A. Partial Owner Occupancy:** The Owner reserves the right to occupy and to place and install equipment in completed areas of the building prior to Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placing of equipment and partial occupancy shall not constitute acceptance of the total Work.
1. The Owner or Owner's Representative will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner occupancy.

1.8 AIR MONITORING BY THE OWNER

- A. The Owner has contracted for air monitoring.** Air monitoring may be conducted both outside and inside of the work area during the work, and for clearance sampling at the end of the project
1. **Outside of the Work Area:** The Owner's air monitoring firm may sample air outside of the work area to detect faults in the work area isolation such as:
 - a. Contamination of the building outside of the work area with airborne asbestos fibers,
 - b. Failure of filtration or rupture in the differential pressure system,
 - c. Contamination of air outside the building envelop with airborne asbestos fibers.
 2. **Inside the Work Area:** The Owner's air monitoring firm may monitor airborne fiber counts in the Work Area. The purpose of this air monitoring is to detect airborne asbestos concentrations which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.
- B. Work area clearance:** Clearance air sampling by the Owner's air monitor at the completion of asbestos abatement work is described in Section 01711 Project Decontamination.
- C. Air monitoring** required by OSHA is work of the Contractor and is not covered in this section

1.9 SCHEDULE OF AIR SAMPLES BY OWNER

- A. Sample cassettes:** Samples will be collected on 25 mm. cassettes as follows:
1. **PCM:** 0.8 micrometer mixed cellulose ester.
 2. **TEM (if required):** 0.45 micrometer mixed cellulose ester or 0.40 micrometer polycarbonate, with 5.0 micron mixed cellulose ester backing filter.
- B. Number and Volume of Samples:** The number and volume of air samples given in the schedules is approximate. The exact number and volume of samples collected by the Owner may vary depending upon job conditions and the analytical method used.

C. Sample Volume and Sensitivity:

1. **PCM:** The sample volumes collected by the Owner's air monitor will be determined by the following formula:

$$\text{Volume} = \frac{\left(\frac{\text{Number of Fibers}}{\text{Area of 100 fields}} \right) \times \text{Total Filter Area}}{\left(\frac{\text{Limit Value}}{4} \right)}$$

Where:

Number of fibers = 5 fibers/100 fields, based on a limit of detection (LOD) of 7 fibers/mm² on the filter
 Area of 100 fields = 0.785mm²
 Total Filter Area = 385mm²
 Limit Value = as specified in the schedules of samples below

- a. For purposes of this specification, the sample volume calculated above will be considered to be of sufficient size so that there is a 95% level of confidence that the value measured by each individual sample at the limit of detection (LOD) is less than or equal to the limit values specified below.
 - b. For purposes of this specification, the Limit of Detection (LOD) is defined as 7 fibers/mm² on the filter or 5 fibers/100 fields.
 - c. For purposes of this specification overloaded samples will be considered as exceeding the applicable limit value.
2. **TEM:** Analytical Sensitivity of 0.05 structures/cc as set forth in the AHERA regulation.

D. Baseline:

1. **Before Start of Work:** The Owner will secure air samples to establish a baseline.
2. **PCM Samples**

Location Sampled	Number of Samples	Limit Value (Fibers/cc)	Approx. Volume (Liters)	Rate (Liters/Minute)
Each Work Area	5	0.01	1,000	1-10
Outside Each Work Area	5	0.01	1,000	1-10
Outside Building	5	0.01	1,000	1-10

3. TEM Samples:

Location Sampled	Number of Samples	Analytical Sensitivity (Struct./cc.)	Approx. Volume (Liters)	Rate (Liters/Minute)
Each Work Area	1	0.005	1,300	1-10
Outside Each Work Area	1	0.005	1,300	1-10
Outside Building	1	0.005	1,300	1-10

4. Baseline: a level expressed in fibers per cubic centimeter which is twenty-five percent greater than the largest of the following:

- a. Average of the PCM samples collected outside each Work Area.
- b. Average of the PCM samples collected outside the building.
- c. 0.01 fibers per cubic centimeter.

5. Samples collected for TEM analysis will be held without analysis. These samples will be analyzed under the conditions and terms set forth in "Fibers Counted" and "Affect On Contract Sum".**E. Daily:**

- 1. From start of work** of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Owner may take samples.
- 2. Sample volume and sensitivity:** inside the work area may vary depending upon conditions in the work area. If samples are overloaded at the sample volume required for a limit value equal to the "Stop Action Levels" or "Immediate Stop Action Levels" given later in this section, the level is considered to have been exceeded.

3. PCM Samples:

Location Sampled	Number of Samples	Limit Value (Fibers/cc)	Approx. Volume (Liters)	Rate (LPM)
Each Work Area	2	0.01	1,000	1-10
Outside Each Work Area at Critical Barrier	1	0.01	1,000	1-10
Clean Room	1	0.01	1,000	1-10
Equipment Decon	1	0.01	1,000	1-10
Outside Building	1	0.01	1,000	1-10
Output of Pressure Differential System	1	0.01	1,000	1-10

- F. Additional samples** may be taken at Owner or Owner's Representative's discretion. If airborne fiber counts exceed allowed limits additional samples may be taken as necessary to monitor fiber levels.

1.10 ANALYTICAL METHODS USED BY THE OWNER

- A.** The following methods will be used by The Owner in analyzing filters used to collect air samples. Sampling rates may be varied from printed standards to allow for high volume sampling.
- 1.** Phase Contrast Microscopy (PCM) will be performed using the NIOSH 7400 method.
 - 2.** Transmission Electron Microscopy(TEM) will be performed using the analysis method set forth in the AHERA regulation 40 CFR Part 763 Appendix A.

1.11 LABORATORY TESTING BY OWNER

- A.** **The services of a testing laboratory** may be employed by the Owner or Owner's Representative to perform laboratory analyses of the air samples. Samples available for analysis will be sent daily by 5:00 pm from Dover via a carrier for next day delivery to the laboratory, so that verbal reports on air samples can be obtained within 24 hours after receipt by the laboratory.
- B.** **A complete record** of all air monitoring and results will be furnished to the Owner's Representative, the Owner, and the Contractor.
- C.** **The Contractor will have access** to all air monitoring tests and results upon request.
- D.** **Written Reports** of all air monitoring tests will be posted at the job site on a daily basis.
- E.** **Additional laboratory samples and professional services time required for re-sampling** of

areas for clearance due to failed samples because of the Contractor's activities will be paid for by the Contractor.

1.12 FIBERS AND STRUCTURES

- A. Fibers Counted:** The following procedure will be used to resolve any disputes regarding fiber types when a project has been stopped due to excessive airborne fiber counts.
- 1. Large Fibers:** "Airborne Fibers" referred to above include all fibers regardless of composition as counted by phase contrast microscopy (PCM), unless additional analysis by transmission or scanning electron microscopy demonstrates to the satisfaction of the Owner or Owner's Representative that non-asbestos fibers are being counted. "Airborne Fibers" counted in samples analyzed by transmission electron microscopy shall be asbestos fibers, greater than 5 microns in length. For purposes of stop action levels, subsequent to analysis by electron microscopy, the number of "Airborne Fibers" shall be determined by multiplying the number of fibers, regardless of composition, counted by PCM by the proportion of fibers that are asbestos as determined by TEM (a number equal to, asbestos fibers counted, divided by all fibers counted in the electron microscopy analysis).
 - 2. Small Structures:** "Airborne Fibers" referred to above include asbestos structures (fibers, bundles, clusters or matrices) of any diameter and any length greater than 0.5 microns.

1.13 ADDITIONAL TESTING

- A. The Contractor may conduct** air monitoring and laboratory testing. If he elects to do this the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner. A NIOSH-582 certified microscopist will be on-site during the afternoon hours to provide analysis of available PCM samples by NIOSH Method 7400. Verbal report on air samples will be provided that day.

1.14 PERSONAL MONITORING

- A. Owner will not perform** air monitoring for the Contractor to meet Contractor's OSHA requirements for personal sampling or any other purpose.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SITE WORKERS

- A.** All workers and supervisors shall be currently certified by the State of Delaware and have their State of Delaware issue badge with them at all times while at the project site.
- B.** All workers and supervisors shall have a copy of their current medical and respirator fit test documentation at all times while at the project site.
- C.** The Contractor shall provide, at all times during any site activities, at least three (3) site workers which includes at least one (1) certified Supervisor and two (2) certified workers. The certified Supervisor shall remain on the outside of the work area as required.

- D. Prior to the start of work, the Contractor shall submit the level of respiratory protection intended for each operation of the project on the Initial Exposure Assessment form (See Section 01562).
- E. A signed copy of the Certificate of Workers Acknowledgement must be obtained from each site worker including supervisors prior to the start of work. (See Section 01530).

3.2 MINIMUM PERSONAL PROTECTION EQUIPMENT

- A. All site workers engaged in asbestos abatement activities shall use, at all times and as a minimum, PAPR respiratory protection equipment.

3.3 STOP ACTION LEVELS

- A. **Inside Work Area:** Maintain an average airborne count in the work area of less than the Stop Action Level given below for the type of respiratory protection in use. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8 hour period exceeds the Stop Action Level, stop all work except corrective action, leave pressure differential and air circulation system in operation and notify the Owner or Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Owner or Owner's Representative.

Table 1. Action Level and Stop Action Fiber Concentrations.

ACTION LEVEL (Max Exposure) (f/cc)	STOP LEVEL (f/cc)	RESPIRATOR	RESPIRATOR ASSIGNED PROTECTION FACTOR
1	0.5	Half Face	10
100	50	PAPR	1,000
100	50	Supplied Air, Pressure Demand	1,000

1. If airborne fiber counts inside contained work areas exceed the stop level for any period of time cease all work except corrective action until fiber counts fall below the stop level and notify Owner's Representative. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Owner or Owner's Representative.
2. The Contractor shall stop work immediately if any visual emissions are observed.

- B. Outside Work Area:** If any air sample taken outside of the Work Area exceeds the baseline established in Part 1 of this section, immediately and automatically stop all work except corrective action. The Owner or Owner's Representative will determine the source of the high reading and so notify the Contractor in writing.
1. If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:
 - a. Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, floor).
 - b. Decontaminate the affected area in accordance with Section 01712 Cleaning & Decontamination Procedures.
 - c. Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for re-occupancy in accordance with Section 01711 Project Decontamination.
 - d. Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.
 - e. If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 Decontamination Units at entry point to affected area.
 - f. After Certification of Visual Inspection in the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01711 Project Decontamination.
 2. If the high reading was the result of other causes initiate corrective action as determined by the Owner or Owner's Representative.
 3. The Contractor shall stop work immediately if any visual emissions are observed.
- C. Effect on Contract Sum:** Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities. The Contract Sum and schedule will be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

3.4 STOP WORK

- A. If the Owner, Owner or Owner's Representative, or Project Administrator** presents a written stop work order, immediately and automatically conform to that stop work order, while maintaining temporary enclosures and pressure differential. Do not recommence abatement work until authorized in writing by Owner, Owner, or Owner's Representative or Project Administrator.

B. Immediately initiate the following actions: After being presented with a stop work order immediately:

1. Cease all asbestos removal activities, or any other activities that disturbs ACM.
2. Repair any fallen, ripped or otherwise failed work area isolation measures.
3. Maintain in operation all work area isolation measures including those required by Sections 01526 "Temporary Enclosures," 01513 "Temporary Pressure Differential & Air Circulation System," 01563 "Decontamination Units."
4. Maintain all worker protections including those required by Sections 01560 "Worker Protection - Asbestos Abatement," and 01562 "Respiratory Protection."
5. Fog the air in the work area with a mist of amended water to reduce airborne fiber levels.

C. Do not recommence work until authorized in writing by the Owner or Owner's Representative.

3.5 SCHEDULE OF ASBESTOS-CONTAINING MATERIALS

See the attached Table 1. for approximate quantities and locations for positive and assumed asbestos-containing materials and assumed asbestos-containing materials on the project. All quantities were estimated. The Contractor shall field verify said quantities without delay and immediately inform the Owner's Representative of any discrepancies.

3.5 LIST OF DRAWINGS

The asbestos abatement work areas are included on the following drawings:

Drawing	Description
A - Master Drawing	Location of project on Delcastle Campus.
B - Basement	Basement work areas.
C - C-Wing Cafeteria & First Floor	C-Wing Cafeteria and First Floor work areas.
D - D-Wing Kitchen & First Floor	D-Wing Kitchen and First Floor work areas.
E - C-Wing Second Floor	C-Wing Second Floor work areas.
F - Chase Core Sectional Layers	Chase Core Sectional Layers.

Table 1.

Summary of Positive and Assumed Asbestos-Containing Building Materials at Delcastle Technical High School - HVAC Renovation Project.

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
INTERIOR - C WING - BASEMENT					
HVAC In-Line Duct Work Unit	<u>Classrooms C002 and C004 - located in Storage Closet (2) HVAC Units Total:</u> HVAC Duct Work Unit with Non-Asbestos Vibration Dampers. NOTE: Units could not be opened for complete inspection.	VD-220, VD-221	Black	NONE DETECTED	2 Units
INTERIOR - C WING - FIRST FLOOR					
Coating (Type 2)	<u>Classroom C101 - Above Drop Ceiling:</u> Asbestos Coating (Fireproofing) over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	SM-14, CO-48, CO-49, FP-95	White, Tan, Brown/Gray /White	3 to 12% Chrysotile	150 SF
Insulation and Coating (Type 3)	<u>Classroom C101 - Vertical Chase (Below Drop Ceiling):</u> Coating over Asbestos Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-55, INS-99, CO-100	Tan, Brown/Gray /White, Gray/White	2 to 12% Chrysotile	80 SF
Coating (Type 6)	<u>Classroom C100 - Vertical and Horizontal Chase (Below Drop Ceiling):</u> Coating over Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-113	Gray/White	3% Chrysotile	80 SF
Coating (Type 7)	<u>Classroom C100 - Above Drop Ceiling:</u> Fireproofing over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-116	White	5% Chrysotile	60 SF

Table 1.

Summary of Positive and Assumed Asbestos-Containing Building Materials at Delcastle Technical High School - HVAC Renovation Project.

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
Coating (Type 8)	<u>Classrooms C106, C108, and C115 - Vertical and Horizontal Chases (Below Drop Ceiling):</u> Coating over Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity. <u>Classrooms C102, C103, C104, C105, C107, C109, C110, C111, C112, C113, C114, C116, C118, and C120 - Vertical Chases (Below Drop Ceiling):</u> Coating over Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	SM-13, CO-130, CO-137, CO-151, CO-156, CO-177, CO-182, CO-187, CO-208	White, Gray/Tan/ White, Gray/White, Gray	2 to 20% Chrysotile	1,950 SF Total
Coating (Type 9)	<u>Library and Classrooms C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C118 and C120 - Above Drop Ceiling:</u> Fireproofing over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-132, CO-139, CO-153, CO-158, CO-174, CO-179, CO-184, CO-189, CO-210	White, Gray/White, Gray	5 to 12% Chrysotile	5,200 SF
Coating (Type 10)	<u>Library and Classrooms C100, C106, C108, C115 - Horizontal Chases on Middle of Room or Hallway Wall (Below Drop Ceiling):</u> Coating over Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-113, SM-13, CO-130, CO-137, CO-151, CO-156, CO-177, CO-182, CO-187, CO-208	Gray/White, White, Gray/Tan/ White, Gray	2 to 20% Chrysotile	450 SF
Nesbitt Syncretizer Unit Ventilators 2'x4'x10'	<u>Basement C005, C006, C008A, C008B, Classroom C100, C110, Office Closet, Cafeteria, Nurses Office, D102, D104 and D105 - (20) HVAC Units Total:</u> HVAC Ventilator units with Non-Asbestos Heat Shields. NOTE: Units could not be opened for complete inspection.	HS-18, HS-23, HS-42, HS-43	Black	NONE DETECTED	20 Units

Table 1.

Summary of Positive and Assumed Asbestos-Containing Building Materials at Delcastle Technical High School - HVAC Renovation Project.

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
Nesbitt Syncretizer Unit Ventilators 2'x4'x10'	<u>Library and Classrooms C101, C102, C103, C104, C105, C106, C107, C108, C109, C110, C111, C112, C113, C114, C115, C116, C118 and C120 - (22)</u> <u>HVAC Units Total:</u> HVAC Ventilator units with Non-Asbestos Heat Shields. HVAC Ventilator units embedded in asbestos containing materials and contains asbestos over spray. NOTE: These units require removal and disposal since they are in contact with confirmed asbestos containing materials and has asbestos over spray on the surface of the units.	HS-18, HS-23, HS-42, HS-43	Black	NONE DETECTED	22 Units
Nesbitt Small Coil Units 2'x3'x1'	<u>Library Rooms C100A, C100B and C100C - (3) Small Fan Coil Units Total:</u> HVAC Coil units with Non-Asbestos Materials. HVAC Coil Units with Asbestos surface over spray. NOTE: These units require removal and disposal since they are in contact with confirmed asbestos containing materials and has asbestos over spray on the surface of the units.	No Suspected Asbestos-Containing Materials Observed Inside of the Units			3 Units
INTERIOR - C WING - SECOND FLOOR					
Coating (Type 2)	<u>Classrooms C201, C202A, C202B, C202C, C203, C204A, C204B, C205, C206, C208, and C210 - Above Drop Ceiling:</u> Asbestos Coating (Fireproofing) over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	SM-14, CO-48, CO-49, FP-95	White, Tan, Brown/Gray /White	3 to 12% Chrysotile	1,300 SF Total
Insulation and Coating (Type 3)	<u>Classrooms C201, C202A, C202B, C202C, C204A, C204B, C205, C206, C208, and C210 - Vertical Chases (Below Drop Ceiling):</u> Coating over Asbestos Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-55, INS-99, CO-100	Tan, Brown/Gray /White, Gray/White	2 to 12% Chrysotile	600 SF Total

Table 1.

Summary of Positive and Assumed Asbestos-Containing Building Materials at Delcastle Technical High School - HVAC Renovation Project.

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
Insulation and Coating (Type 4)	<u>Classroom C203 - Vertical and Horizontal Chases (Below Drop Ceiling):</u> Coating over Asbestos Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-55, INS-99, CO-100	Tan, Brown/Gray /White, Gray/White	2 to 12% Chrysotile	200 SF
Insulation and Coating (Type 5)	<u>Classroom C203 - Vertical Chases (Below Drop Ceiling):</u> Coating over Coating over Asbestos Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.				100 SF
Coating (Type 10)	<u>Classroom C203 - Vertical and Horizontal Chases (Below Drop Ceiling):</u> Coating over Asbestos Insulation over Asbestos Coating over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	CO-55, INS-99, CO-100	Tan, Brown/Gray /White, Gray/White	2 to 12% Chrysotile	200 SF
Coating (Type 2)	<u>Classroom Offices C201A, C202D, C204C, C205A and C208A (Above Drop Ceiling):</u> Asbestos Fire Proofing over Plaster over Wire Lath over Metal Structural Beam or Masonry or Wood or Open Cavity.	SM-14, FP-95	White, Brown/Gray /White	3 to 4% Chrysotile	700 SF
Nesbitt Syncretizer Unit Ventilators 2'x4'x10'	<u>Classrooms C202A, C203, C206, C207, C209, C210, C211, C213, C214, C215, C216, C217, C218, C219, C221, C222, C223, C224, C225, C227A, C227B, and C227C - (26) HVAC Units Total:</u> Asbestos Heat Shields located in HVAC Ventilator units embedded in asbestos containing materials and contains asbestos over spray. NOTE: Multiple Asbestos Heat Shields in each HVAC Ventilator Units.	HS-1, HS-6, HS-9, HS-15	White	25 to 30 % Chrysotile	26 Units
Nesbitt Syncretizer Unit Ventilators 2'x4'x10'	<u>Classroom C200 (1) HVAC Unit Total:</u> HVAC Ventilator unit with Non-Asbestos Heat Shield. NOTE: Unit could not be opened for complete inspection.	HS-18, HS-23, HS-42, HS-43	Black	NONE DETECTED	1 Unit

Table 1.

Summary of Positive and Assumed Asbestos-Containing Building Materials at Delcastle Technical High School - HVAC Renovation Project.

Building Material	Location and Description	Sample ID:	Color	Laboratory Result	Approximate Quantity
	<u>Classrooms C201, C202B, C203, C204A, C204B, C205, C208 and C210 - (15) HVAC Units Total:</u> HVAC Ventilator units with Non-Asbestos Heat Shields. HVAC Ventilator units embedded in asbestos containing materials and contains asbestos over spray. NOTE: These units require removal and disposal since they are in contact with confirmed asbestos containing materials and has asbestos over spray on the surface of the units.				15 Units
Nesbitt Small Coil Units 2'x3'x1'	<u>Classroom Offices C201A, C202D, C203, C204C, C205A, C208A, C218A, C220, C222B, C224B, C225A, C227D - (12) Small Fan Coil Units Total:</u> HVAC Coil units with Non-Asbestos Materials. HVAC Coil Units with Asbestos Surfacing over spray. NOTE: These units require removal and disposal since they are in contact with confirmed asbestos containing materials and has asbestos over spray on the surface of the units.	No Suspected Asbestos-Containing Materials Observed Inside of the Units			12 Units

Note: SF = Square-Feet, CF = Cubic-Feet, LF = Linear-feet, EA = Each

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APPENDIX 1

CONTRACT PROCUREMENT

This solicitation is issued as an Agency procurement. The structure of this Request for Proposals does not remove or relinquish Public Works procurement procedures required by 29 Del. C. 69, Subchapter IV as applied specifically to individually defined projects. Distinction from a Public Works contract is made in this Request for Proposals in that the resulting award is intended for services of recurring need with undetermined quantities contrast to Public Works contract awarded for individual projects. Accordingly, to avoid conflicting with Public Works procurement requirements, the individual requests for services should not exceed the current open procurement threshold for Public Works, which can be seen at: [Public Works Bid Thresholds](#)

REGISTERED OR PREQUALIFIED BIDDERS

Bidders are not required to be registered or prequalified for this Request for Proposals. All bidding documents are made publicly available on <http://bids.delaware.gov/>. While subcontractors are not required to be prequalified for this solicitation, subcontractors, if used, should be identified individually on the subcontractor form included with this solicitation without a prequalification requirement.

PREVAILING WAGE

The prevailing wage law, 29 Del. C. § 6960(a), is enforced by the Department of Labor and states that the specifications for every contract or aggregate of contracts relating to a Public Works project in excess of \$500,000 for new construction (including painting and decorating) or \$45,000 for alteration, repair, renovation, rehabilitation, demolition or reconstruction (including painting and decorating of building or works) to which this State or any subdivision thereof is a party and for which the State appropriated any part of the funds and which requires or involves the employment of mechanics and/or laborers shall contain a provision stating the minimum wages to be paid various classes of laborers and mechanics which shall be based upon the wages that will be determined by the Delaware Department of Labor, Division of Industrial Affairs, to be prevailing in the county in which the work is to be performed.

The Department of Labor has determined that this contract and any work that stems from this contract regardless of location is subject to prevailing wage. The Department of Labor Prevailing Wage sheet for work performed under this contract is attached. The Vendor is required to conform with this determination and rate sheet.

According to 29 Del C. 6960(c), every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.

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CONTRACTOR REGISTRATION ACT

On July 1, 2021, the Contractor Registration Act, as codified in 19 Del. C. §§ 3601 *et seq*, took effect. This law requires all contractors to register with the Delaware Department of Labor before performing construction services or maintenance. The Contractor Registration Act applies to all contractors that engage in construction and maintenance within the State of Delaware. Additionally, it requires contractors to have Delaware workers' compensation insurance where required, compliance with labor laws, and proof of a state business license. The Delaware Department of Labor's Office of Contractor Registration is responsible for enforcement of the requirements of the Contractor Registration Act. If you have any questions about the contractor registration process, please call 302-430-7739 or email Contract.Registry@delaware.gov. Registration at onestop.delaware.gov.

PREFERENCE FOR DELAWARE LABOR

In accordance with 29 Del Code§ 6962(d)(4)(b) of the Delaware Code, in the construction of all public works for the State or any political subdivision thereof or by firms contracting with the State or any political subdivision thereof, preference in employment of laborers, workers or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State. Each public works contract for the construction of public works for the State or any political subdivision thereof shall contain a stipulation that any person, company or corporation who violates this section shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section.

CRAFT TRAINING PROGRAM

In accordance with 29 Del. C. § 6962(c)(13) of the Delaware Code, effective June 7, 2020, contractors and subcontractors must provide craft training for journeyman and apprentice levels under certain circumstances. If awarded a contract and selected to perform a project under the contract, vendor must complete the included Affidavit of Craft Training Compliance and present the Affidavit to the agency for whom the contractor is performing the project prior to a Purchase Order being completed by that agency. The attached affidavit shall be completed by the vendor and submitted to the agency.

DRUG TESTING PROGRAM

The contractor shall maintain a drug testing program during the term of the contract in compliance with Delaware Regulation 4104. The attached affidavit shall be completed by the vendor and submitted to the agency with the bid.

INFORMATION ONLY

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AFFIDAVIT OF CRAFT TRAINING COMPLIANCE

We, the contractor, hereby certify that we and all applicable subcontractors will abide by the contractor and subcontractor craft training requirements outlined below for the duration of the contract. Craft training is defined as "an apprenticeship program approved by and registered with any State apprenticeship agency or the United States Department of Labor."¹ A list of crafts for which there are approved and registered training programs is maintained by the Delaware Department of Labor and can be found at [https://det.delawareworks.com/apprenticeship/documents/Apprenticeship Occupation List for 29Del6962 Compliance.pdf](https://det.delawareworks.com/apprenticeship/documents/Apprenticeship%20Occupation%20List%20for%20Del6962%20Compliance.pdf) Information pertaining to subcontractor craft training programs shall be provided by the contractor prior to contract execution. If you have questions regarding craft training programs, please submit them in writing to the Delaware Department of Labor at: apprenticeship@delaware.gov.

In accordance with Title 29, Chapter 69, Section 6962(c)(13) of the Delaware Code, contractors and subcontractors must provide craft training for journeyman and apprentice levels if **all** of the following apply:

- A. A project meets the prevailing wage requirement under Title 29, Chapter 69, Section 6960 of the Delaware Code.
- B. The contractor employs 10 or more total employees.
- C. The project is not a federal highway project

Failure to provide required craft training on the project may subject the successful contractor and/or subcontractor(s) to penalties as outlined in Title 29, Chapter 69, Section 6962(c)(13) of the Delaware Code.

Craft(s): _____

Contractor Name: _____

Contractor Address: _____

Contractor/Subcontractor Program Registration Number _____

On this line also indicate whether DE, Other State (identify) or US Registration Number

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____ day of _____ 20____

NOTARY PUBLIC _____.

My Commission expires _____.

INFORMATION ONLY

**2022 Asbestos Abatement for the HVAC Renovations Project
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AFFIDAVIT OF EMPLOYEE DRUG TESTING PROGRAM

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor/Subcontractor Name:

Contractor/Subcontractor Address:

Authorized Representative (typed or printed):

Authorized Representative (signature):

Title:

Sworn to and Subscribed before me this _____ day of _____ 20____.

NOTARY PUBLIC _____.

My Commission expires _____.