TECHNICAL SPECIFICATIONS

Norristown Public Library
1001 Powell Street
Norristown, Pennsylvania



Prepared for:

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52 Glenmaura National Boulevard
Suite 302
Scranton, PA 18507

Project No. GRMNP24004

September 19, 2024
Revised November 11, 2024

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(The latest demo drawings from the architect will be included in bid documents.)

END OF SECTION

PROJECT DIRECTORY

PROJECT NAME:	Asbestos Abatement Norristown Public Library
PROJECT LOCATION:	Norristown Public Library 1001 Powell Street Norristown, PA 19401
BUILDING OWNER:	Montgomery County, PA Contact: Meera Ponnappa, Project Manager, Capital Projects
ASBESTOS MONITORING FIRM:	Pennoni Associates, Inc. 515 Grove Street, Suite 1B Haddon Heights, New Jersey 08035 Contact: Thomas Adams, CIEC PA Project Designer #012107 (856) 547-0505 Office
DATE OF CONTRACT DOCUMENTS:	September 19, 2024 *Revised November 11, 2024*

SECTION 01013

SUMMARY OF WORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 PROJECT/WORK IDENTIFICATION

A. The Project name is Asbestos Abatement – Norristown Public Library – Norristown, PA.

Site locations are as follows:

Norristown Public Library
1001 Powell Street
Norristown, PA

The contract documents have been prepared by the Owner's Environmental Consultant, Pennoni Associates Inc., and are dated November 11, 2024.

Greenman-Pedersen, Inc. is requesting the following asbestos abatement at the above referenced address:

- The scope of the project includes the complete removal and off-site disposal of identified asbestos-containing materials during two phases of the renovation project. The asbestos-containing materials based on original renovation design are summarized in the summary tables in 3.4 of this Section. The tables are provided to supply Contractors with estimated quantities and information to aid in the bidding process. The tables shall in no way limit the scope of work. The Contractor shall be responsible to fully investigate the scope of work and provide a bid proposal based on all existing conditions.

- Contractor shall remove floor tile, associated mastic, and black cement window sills utilizing full containment or non-friable methods.

- Contractor shall remove fire doors, wallboard adhesive, mirror adhesive, pink sink undercoating, roofing materials (field, flashing, seam tar and pitch pocket), exterior concrete wall expansion caulk, air handler caulk and duct seam caulk using non-friable methods.

- The scope includes limited demolition of building materials for removal access.

- Contractor shall provide electrical, and water sources required to conduct all abatement activities and scope of work as outlined in the specification.

- Contractor shall also be responsible for the proper identification, quantification, removal and off-site disposal of Universal Wastes/Hazardous Materials within the facility, such as, but not limited to: fluorescent light tubes, fluorescent light fixture ballasts, emergency light batteries, mercury containing switches and thermostats, stored chemicals, exterior transformers and associated oils. Attached is the environmental building survey report prepared for the project in Appendix A. The Universal Waste/Hazardous Material inventory is an estimated inventory and actual quantities shall be the responsibility of the contractor to determine disposal costs

in their bid. Contractor shall submit all waste shipment records and waste manifests to the General Contractor. Universal Wastes/Hazardous Materials shall be staged within the facility in a single location and properly packaged for removal, manifesting and proper disposal. The materials shall be placed on a 6 mil thick polyethylene sheet for inventory prior to disposal.

B. Section 3.4 - Summary of Work, provides estimated quantities of asbestos-containing materials to be removed. The Contractor is responsible to determine exact quantities of asbestos-containing materials and scope of work as outlined in the specification and prior to the submission of their bid.

C. Contract Documents: Indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:

1. Applicable codes and regulations
2. Notices and permits
3. Existing site conditions and restrictions on use of the site
4. Work performed prior to work under this Contract
5. Alterations and coordination with existing work
6. Work to be performed concurrently by the Owner
7. Work to be performed concurrently by separate contractors
8. Work to be performed subsequent to work under this Contract
9. Alternates
10. Allowances

D. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, addenda and modifications to the contract documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.

E. General and Administrative Requirements are set forth in the following specification sections:

1. 01013 SUMMARY OF THE WORK
2. 01043 PROJECT COORDINATION
3. 01091 DEFINITIONS AND STANDARDS
4. 01301 SUBMITTALS

F. Abatement Work requirements are set forth in the following specification sections, listed here according to the sequence of the work:

1. 01092 CODES, REGULATIONS, AND STANDARDS - Sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
2. 01503 TEMPORARY FACILITIES - Sets forth the support facilities needed such as electrical and plumbing connections for the decontamination units and office space for the Industrial Hygienist.

3. 01526 TEMPORARY ENCLOSURES - Details the requirements for the sheet plastic barriers isolating the work area from the balance of the building.
4. 01410 AIR MONITORING - Describes air monitoring by Owner's Environmental Consultant so that the building beyond the work area will remain uncontaminated. Air monitoring to determine required respiratory protection is the responsibility of the Contractor.
5. 01513 TEMPORARY PRESSURE DIFFERENTIAL & AIR FILTRATION SYSTEM - Sets forth the procedures to set up the air filtration units and ventilation of the work area.
6. 01560 WORKER PROTECTION - Sets forth the procedures and equipment for adequate worker protection.
7. 01562 RESPIRATORY PROTECTION - Sets forth the procedures and equipment required for adequate protection against inhalation of airborne asbestos fibers.

G. Asbestos Removal Work Procedures are described in the following specification sections:

1. 02081 REMOVAL OF ASBESTOS
2. 02084 DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

H. Decontamination of the Work Area after completion of abatement work is described in the following sections:

1. 01711 PROJECT DECONTAMINATION - Describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a work area.
2. 01714 WORK AREA CLEARANCE - Describes the analytical methods used to determine if the work area has been successfully cleaned of contamination.

1.3 PROJECT COORDINATION

A. The Asbestos Contractor shall coordinate all Asbestos Abatement work with the Environmental Consultant in accordance with Section 01043 – Project Coordination.

B. The Asbestos Contractor shall not perform any work in the absence of the Environmental Consultant’s Industrial Hygienist, who shall decide in his absolute discretion as to the meaning and applicability of any part of the Asbestos Abatement Specification.

1.4 INSPECTION

A. Prior to commencement of work, the Contractor shall inspect areas in which work will be performed. Prepare a listing of damages to structure, surfaces, equipment or surrounding properties, which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary, to document conditions. Submit to Environmental Consultant prior to starting work.

1.5 POTENTIAL ASBESTOS HAZARD

A. The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the jobsite of the seriousness of the hazard and of proper work procedures, which must be followed.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials, take appropriate continuous measures as necessary to protect all building occupants from the potential hazard 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 STOP WORK

A. If the Owner or Environmental Consultant presents a written stop work order, immediately and automatically stop all work. Do not recommence work until authorized in writing by Environmental Consultant.

1.7 ASBESTOS-CONTAINING MATERIALS

A. The following asbestos-containing materials are to be removed as part of this scope of work. If any other materials are found, which are suspected of containing asbestos (i.e. floor tile, pipe insulation, pipe fittings, etc.), notify the Environmental Consultant immediately both verbally and in writing. Do not proceed with any additional work without written approval. The summary tables of materials, estimated quantities and locations of asbestos materials to be removed based on original renovation design is also included under 3.4 of this Section.

1. Air handler caulk
2. Duct seam caulk
3. Fire doors (assumed ACM)
4. 12”x12” tan and gray marble floor tile and mastic
5. Mastic associated with non-ACM 12”x12” white and gray marble floor tile
6. Mastic associated with non-ACM 12”x12” gray and brown marble floor tile
7. Wallboard adhesive (assumed ACM)
8. Black cement window sill, two sizes
9. Mirror mastic (assumed ACM)
10. Pink sink undercoating
11. Mastic associated with 12”x12” tan flake floor tile
12. Roof field (assumed ACM)
13. Roof flashing (assumed ACM)
14. Roof seam tar (assumed ACM)
15. Pitch pocket (assumed ACM)
16. Exterior concrete wall expansion caulk

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 OWNER OCCUPANCY

A. The building will be **occupied by other trades** during abatement activities. Cooperate fully with other personnel that may be working at the site. Perform all work so as not to interfere with other personnel.

B. All Asbestos Abatement work shall be performed in accordance with these specifications, and all federal, state and local regulations, as applicable.

3.2 CONTRACTOR USE OF PREMISES:

A. Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.

1. Keep existing driveways and entrances serving the premises clear and available to the Owner at all times. Do not use these areas for parking or storage of materials.
2. Do not unreasonably encumber the site with materials or equipment.
3. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place or accessible to unauthorized persons.

B. Contractor's Use of the Existing Building(s): Maintain existing building(s) in a safe and weather tight condition throughout the construction period.

1. Smoking or open fires will not be permitted within the building.
2. Keep means of egress clear of rubbish, construction materials and asbestos waste.
3. The use of existing toilets within the building will be allowed at the Owner's discretion.

3.3 WORK TO BE PERFORMED BY OTHERS:

A. The Owner will coordinate with the Contractor to facilitate shut down, blanking off and lockout of all HVAC, electrical, mechanical and security equipment and systems located within and/or servicing the work area(s) as feasible.

3.4 SUMMARY OF WORK

A. The scope of the project includes the complete removal and off-site disposal of identified asbestos-containing materials. The asbestos-containing materials will be conducted into two phases and are summarized in the following summary tables. The tables are provided to supply Contractors with information to aid in the bidding process. The tables shall in no way limit the scope of work. The Contractor shall be responsible to fully investigate the scope of work and provide a bid proposal based on all existing conditions. Quantities listed in the tables are only estimates. Contractor is responsible to verify quantities.

Table 1A – Identified and Assumed Asbestos-Containing Materials – Phase 1
Norristown Public Library
1001 Powell Street
Norristown, PA 19401

Homogenous No. and Material	Location	Approx. Quantity	Type	Percentage	Condition
6. Air Handler Caulk	2nd Floor, Mechanical Room 222	500 SF	Chrysotile	5%	Good
	Total	**500 SF**			
7. Duct Seam Caulk	2nd Floor, Mechanical Room 222	1,000 SF	Chrysotile	3%	Good
	Total	**1,000 SF**			

Table 1A – Identified and Assumed Asbestos-Containing Materials – Phase 1 Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
14. 12”x12” Tan and Gray Marble Floor Tile and Mastic	2nd Floor, Hallway 227	800 SF	Chrysotile	Floor Tile – 5% Mastic – 5%	Good
	2nd Floor, Storage 226 #1	345 SF			Good
	2nd Floor, Storage 225	128 SF			Good
	2nd Floor, Closed Stacks 215	4,500 SF			Good
	Stair #3	180 SF			Good
	2nd Floor, Storage 208	60 SF			Good
	Stair #2 (storytelling storage)	144 SF			Good
	Stair #2 Exit	150 SF			Good
	1st Floor, Janitor’s Closet 111	75 SF			Good
	Stair #4	300 SF			Good
	1st Floor, Community Room	2,400 SF			Good
	Total	**8,362 SF**			
15. Mastic associated with non-ACM 12”x12” White and Gray Marble Floor Tile	2nd Floor, Hallway 227	50 SF	Chrysotile	Mastic - 6% Floor Tile - NAD	Good
	2nd Floor, Storage 225	1 SF			Good
	2nd Floor, Kitchen, Room 210-216	10 SF			Good
	1st Floor, Employee Lounge	40 SF			Good
	1st Floor, Computer Room 128/122	480 SF			Good
	Total	**581 SF**			
16. Mastic associated with non-ACM 12”x12” Gray and Brown Marble Floor Tile	2nd Floor, Hallway 227	190 SF	Chrysotile	Mastic - 2% Floor Tile - NAD	Good
	Total	**190 SF**			
22. Wallboard Adhesive	2nd Floor, Offices 204, 207 and 209	200 SF	-	Presumed ACM	Good
	Total	**200 SF**			
23. Black Cement Window Sill, Two Sizes	2nd Floor, Children’s Stall 203	65 SF	Chrysotile	15%	Good
	2nd Floor, Storytelling	40 SF			Good
	Stair #2 (storytelling storage)	6 SF			Good
	2nd Floor, Work Room 210/Storage 213	9 SF			Good
	2nd Floor, Conference Room 214	6 SF			Good
	2nd Floor, Hallway	40 SF			Good
	1st Floor, Main Library and Office	400 SF			Good
	1st Floor, Employee Lounge	35 SF			Good
	1st Floor, Hall 114	5 SF			Good

Table 1A – Identified and Assumed Asbestos-Containing Materials – Phase 1 Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
	1st Floor, ILL Room 125	6 SF			Good
	1st Floor, Technical Processing 119 and Office 118	30 SF			Good
	1st Floor, Storage 124	4 SF			Good
	1st Floor, Extension Room 123	12 SF			Good
	Total	**658 SF**			
28. Mirror Adhesive	2nd Floor, Men's Room 205 and Women's Room 208	4 SF	-	Presumed ACM	Good
	1st Floor, Men's Room 115and Women's Room 116	24 SF			Good
	Total	**28 SF**			
29. Pink Sink Undercoating	1st Floor, Employee Lounge	6 SF	Chrysotile	3%	Good
	1st Floor, Community Room Kitchen	6 SF			Good
	Total	**12 SF**			
36. Mastic associated with 12"x12" Tan Flake Floor Tile	Elevator (lobby, back hall, main library)	50 SF	Chrysotile	Mastic – 2% Floor Tile - NAD	Good
	Total	**50 SF**			

Table 1B – Identified and Assumed Asbestos-Containing Materials – Phase 2 Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
13. Fire Doors	Throughout	60 EA	-	Presumed ACM	Good
	Total	**60 EA**			
41. Roof Field	Lower Roof, L-Shape	12,000 SF	-	Presumed ACM	Good
	Lower Roof, Rectangle-Shape	8,100 SF			Good
	Upper Roof	30,000 SF			Good
	Total	**50,100 SF**			
42. Roof Flashing	Lower Roof, L-Shape	1,000 SF	-	Presumed ACM	Good
	Lower Roof, Rectangle-Shape	700 SF			Good
	Upper Roof	5,000 SF			Good
	Total	**6,700 SF**			
43. Roof Seam Tar	Lower Roof, L-Shape	100 SF	-	Presumed ACM	Good
	Upper Roof	300 SF			Good
	Total	**400 SF**			

Table 1B – Identified and Assumed Asbestos-Containing Materials – Phase 2 Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
44. Pitch Pocket	Upper Roof	50 SF	-	Presumed ACM	Good
	Total	**50 SF**			
46. Exterior Concrete Wall Expansion Caulk	Exterior of Building	50 SF	Chrysotile	2%	Good
	Total	**50 SF**			

B. The Contractor shall:

1. Make all required notifications, obtain all permits and pay all fees associated with the work.
2. Remove all identified asbestos-containing materials in strict accordance with all applicable federal, state and local regulations and this specification.
3. Dispose of all asbestos-containing materials in strict accordance with applicable codes and regulations and this specification.
4. Coordinate with the Facilities Manager for the shutdown, blanking off and lockout all HVAC, electrical, mechanical and security equipment and systems located within and/or servicing the work area locations where feasible.
5. Provide personnel and waste decontamination facilities. The Contractor shall be responsible to make all connections and disconnections to existing electrical panels and water sources. The Contractor shall provide the necessary equipment to supply the decontamination unit with hot water.
6. Vent all HEPA-equipped air filtration units to the exterior of the building. The Contractor shall remove doors and/or windows as required and construct plywood manifold systems to allow for exhaust ducts to run to the building exterior.
7. Install scaffolding as necessary to access the work.
8. Remove and dispose of asbestos-containing materials described herein.
9. Clean and decontaminate the work areas as per this specification.
10. Route all waste directly to the secured dumpster/truck.
11. Coordinate the location of dumpsters with the Environmental Consultant. All asbestos dumpsters shall be the enclosed lockable type and shall be kept locked when left unattended.
12. The Contractor shall be required to achieve the post abatement, air monitoring clearance criteria as specified in Section 01714, Work Area Clearance.

3.5 SCHEDULE

The following schedule shall govern work of this contract:

Schedule to be determined.

END OF SECTION

SECTION 01043

PROJECT COORDINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
   1. Notifications.
   2. Permits and Fees.
   3. Administrative and supervisory personnel.
   4. Pre-Construction meeting.
   5. Progress Meetings.
   6. Documentation required at work site.
   7. Coordination of Subcontractors and other trades.
   8. Requirements for the Contractor's Construction Schedule are included in Section “Submittals”.

1.3 NOTIFICATIONS:

A. The Contractor shall make all required notifications associated with his contract to include, but not limited to those listed in Section 01902 Codes, Regulations and Standards.

1.4 PERMITS AND FEES:

A. The Contractor shall obtain all required Permits, and pay all fees associated with his contract to include, but not limited to those listed in Section 01092 Codes, Regulations and Standards.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

A. General Superintendent: Provide on a twenty-four hour a day on call basis, a General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Competent Person as required by OSHA in 29 C.F.R. 1926 for the Contractor and is the Contractor's Representative's responsible for compliance with all applicable Federal, State, and Local Regulations, and this specification. This person shall have completed a course at an E.P.A. Training Center or an equivalent certified course in asbestos abatement procedures and have had a minimum of three years of on-the-job training and meet any additional requirements set forth in 29 C.F.R. 1926 for a Competent Person and this specification. The responsibilities of the General Superintendent shall include but not be limited to the following:

   1. The General Superintendent shall submit special reports directly to the Owner within one day of occurrence. A copy shall be submitted to the Owner's Representative, Project Consultants, and others affected by the occurrence.

   2. When an event of unusual and significant nature occurs at the site (e.g. failure of negative

pressure system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise the Owner in advance at the earliest possible date.

B. Project Supervisor: Provide a full-time Project Supervisor who is certified and fully knowledgeable in the use of equipment and situations unique to that worksite. A separate individual shall be required to fulfill this function for each work shift that exceeds ten hours within any twenty-four-hour period. The responsibilities of the Project Supervisor shall include but not be limited to the following:

1. Ensure that the individuals are wearing all proper personal protective equipment as outlined in Sections 01560 - 01562 of this specification and are trained in their use.

2. Ensure that precautions have been taken to prevent heat stress and other emergencies from occurring (e.g. selecting light-weight protective clothing, reducing the work rate, and providing adequate fluid breaks).

1.6 PRE-CONSTRUCTION MEETING:

A. The Contractor shall attend pre-construction meeting(s) scheduled by the Environmental Consultant. These meetings shall be attended by the Owner and/or the Owner's Representative, and the Contractor’s OSHA Monitoring Firm. At this meeting, the Contractor shall present in detail the following:

1. A detailed plan for preparation of each work area.
2. Description of protective clothing and approved respirators (by NIOSH and the Project Consultants) to be used.
3. Delineation of responsibility of work site isolation.
4. Explanation of the decontamination sequence.
5. Description of all removal methods to be used.
6. Explanation of the handling of asbestos-contaminated waste.
7. Proof of workers' medical exams substantiated by reports signed by the physician.
8. Description of the final clean up procedures to be used.
9. Proposed waste disposal site and proof of transporter registration. If a change in either of these items occurs during the course of the project, the Contractor shall notify the Environmental Consultant.
10. A sample of the waiver form to be used for all authorized visitors to the site.
11. Explanation of air filtration systems to be used for personnel protection, building protection, and environmental protection.
12. List of equipment on hand or to be obtained, how to be used, and the operation of each to include impact on the personnel, building environmental, and work environment.
13. Plan of action in the event of an emergency (Asbestos Spill Plan, fire routes, etc.).
14. A Detailed Work Schedule, with start and completion dates for all phases of asbestos abatement, to include, but not limited to, Worksite Preparation, Pre-inspection, Removal, Clean-up, Pre-encapsulation Inspection, Encapsulation, Clean-up Inspection, Final Cleaning, Disposal, Final Inspection, Post-testing, Analysis and Post State Inspection.

B. The Quality Assurance Air Monitoring Firm shall present in detail an explanation of air monitoring procedures to be used on behalf of the Owner. The Contractor (or independent air monitoring laboratory employed on his behalf) shall present in detail how compliance with OSHA monitoring requirements shall be fulfilled.

C. Asbestos work shall not proceed until the Owner, Environmental Consultant, and the Contractor agree on the details listed in this article.

1.7 PROGRESS MEETINGS:

A. The Contractor shall attend prescheduled Progress Meetings. These shall be scheduled by the Environmental Consultant. These meetings shall also be attended by Owner's Representative and the Environmental Consultant. Any such meetings shall serve to update all items discussed in the Pre-Construction meeting.

1.8 DOCUMENTATION REQUIRED AT WORK SITE:

A. One copy of each regulation cited in Section 01092 shall be available in the Contractor's business office and one copy of each shall be maintained in view at the job site.

B. The Contractor shall display copies of the required letters of Notification, Permits, and Variances.

C. Additional documentation required of the Contractor and to be available at the job site shall include:

1. List of emergency telephone numbers to include:
   a. The Environmental Consultant and Industrial Hygienist.
   b. E.P.A.
   c. O.S.H.A.
   d. D.E.P.
   e. D.O.H.
   f. Fire Department.
   g. Police Department.
   h. Local Hospital.
   i. Emergency Squad.
   j. DCA Asbestos Safety Unit.
   k. Contractors Project Supervisor and General Superintendent.

2. The Contractor shall establish written work area emergency procedures and shall have such procedures posted in view and also inside each work area. In case of an emergency, decontamination procedures shall not impede emergency procedures.
3. List or personnel including all new employees.
4. A Daily Log of all persons entering the work area, including all visitors. The Log shall include the full name and certification number of all employees, and the time when they enter and exit the work area. Non-employees of the Asbestos Contractor shall be required to sign an acceptable waiver form. The waiver form shall be approved by the Environmental Consultant.
5. The Daily Log shall include a record of start and stop times, any work area problems encountered, any corrective action, and estimated amount of asbestos waste generated.
6. The Contractor shall be responsible for obtaining a copy of the daily monitoring logs from their air testing firm and maintaining this with the Daily Log at the job site.

7. Copies of Daily Log forms shall be given to the Environmental Consultant at the end of each week's work.

D. Work schedules and updated progress charts depicting all phases of work and completion deadlines.

E. Copy of Waste Hauler's Certificate and copy of all landfill receipts.

1.9 COORDINATION OF SUBCONTRACTORS AND OTHER TRADES:

A. The Contractor shall work in complete cooperation and coordination with any Subcontractors or any other trades that may be involved in other work within or related to the site.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01091

DEFINITIONS AND STANDARDS

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 SUMMARY:

A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this article.

B. General Requirements: The provisions or requirements of Division-1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.

1.3 GENERAL DEFINITIONS:

A. Definitions contained in this Article are not necessarily complete but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

1. Building Owner: The person in whom legal title to the premises is vested unless the premises are held in land trust, in which instance the Building Owner means the person in whom beneficial title is vested.
2. Contractor: A public authority or any other governmental agency or instrumentality thereof, self-employed person, company, unincorporated association, firm, partnership, or corporation and any owner or operator thereof, which engages in an asbestos project or employs persons engaged in an asbestos project.
3. Indicated: This term refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
4. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner Representative", "requested by the "Owner's Representative", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's Representative's responsibility into the Contractor's area of construction supervision.
5. Approve: The term "approved," where used in conjunction with the Owner Representative's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.
6. Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

7. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
8. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."
9. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
10. Installer: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor or sub-subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
11. The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this project, and familiar with the precautions required, and has complied with requirements of the authority having jurisdiction.
12. Project Site is the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings.
13. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.
14. Owner's Representative: This is the entity described as the "Architect" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." All references to Architect or Engineer in the Contract Documents in all cases refer to the Owner's Representative. The Owner's Representative will represent the Owner during construction and until final payment is due. The Owner's Representative will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Owner's Representative.
15. Project Administrator: This is the entity described as the "Project Representative" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." The Project Administrator is a full time representative of the Owner at the job site with authority to stop the work upon verbal order if requirements of the Contract Documents are not met, or if in the sole judgement of the Project Administrator, Owner's Representative, Owner, the interests of the Owner, safety of any person or the Owner's property are jeopardized by the work.
16. General Superintendent: This is the Contractor's Representative at the work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.

1.4 DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

A. Definitions:

1. Abatement: Any and all procedures physically taken to control fiber release from asbestos-containing materials. This includes removal, encapsulation, enclosure and repair.
2. Abatement Activities: All activities from the initiation of work area preparation through successful clearance air monitoring performed at the conclusion of an asbestos project.
3. Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with Section 206 of Title II of the Toxic Substances Control Act

(TSCA).

4. Action Level: An airborne concentration of asbestos of 0.1 fibers per cubic centimeter (f/cc) of air calculated as an eight-hour time-weighted average.
5. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
6. Aggressive Sampling: A method of sampling in which the individual collecting the air sample creates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.
7. Airlock: A system for permitting entrance and exit while restricting air movement between a contaminated area and an uncontaminated area. It consists of two curtained doorways separated by a distance of at least four feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.
8. Air Cell: Insulation normally used on pipes and duct work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.
9. Air Monitoring: The process of measuring the fiber content of a specific volume of air.
10. Air Sampling: The process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400, or the provisional transmission electron microscopy methods developed by the USEPA which are utilized for lower detectability and specific fiber identification.
11. Ambient Air Monitoring: Measurement or determination of airborne asbestos fiber concentrations outside but in the general vicinity of the worksite.
12. Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.
13. Approved Safety and Health Program: A Program certified by the Commissioner providing training in the handling and use of asbestos-containing material, and safety and health risks inherent in such handling and use, together with methods for minimizing the exposure of workers and the public to asbestos fibers, and instruction in all applicable federal, state and local laws and regulations pertaining to asbestos-related work.
14. Area Air Sampling: Any form of air sampling or monitoring where the sampling device is placed at some stationary location.
15. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebecktite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
16. Asbestos-Containing Material (ACM): Any material containing more than 1% by weight of asbestos of any type or mixture of types.
17. Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
18. Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.
19. Asbestos-Contaminated Objects: Any objects which have been contaminated by asbestos or asbestos-containing material.

20. Asbestos debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
21. Asbestos Handler: An individual who disturbs, removes, encapsulates, repairs, or encloses friable asbestos material. This individual shall have completed an approved training course and be fully certified.
22. Asbestos Handler Supervisor: An individual who supervises the handlers during an asbestos project and ensures that proper asbestos abatement procedures as well as individual safety procedures are being adhered to. This individual shall have completed approved training courses and be fully certified.
23. Asbestos Inspection Report: A report on the condition of a building or structure in relation to the presence and condition of asbestos therein.
24. Asbestos investigator: A certified individual having satisfactorily demonstrated his or her ability to identify the presence and evaluate the condition of asbestos in a building or structure.
25. Asbestos Removal Plan: A plan which will be undertaken so as to prevent asbestos from becoming airborne in the course of the alteration, renovation, modification or demolition of any building or structure.
26. Asbestos Project Inspector: An individual who is responsible for the enforcement of all applicable regulations and the project specifications for the Building Owner.
27. Asbestos Spill Plan: This is to be implemented immediately in the event of failure. This includes, but is not limited to, a HEPA vacuum, extra trash bags, mops, sponges, buckets, etc., for rapid cleanup.
28. Authorized Visitor: The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.
29. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.
30. Baseline Monitoring: A measurement or determination of airborne asbestos fiber concentrations inside the work area and outside the building prior to starting the abatement activities.
31. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
32. Calibration: The determination within specific limits of the true value of the scale reading or indication of an instrument.
33. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
34. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
35. Certified Safety Person (C.S.P): An individual having a bachelor's degree from an accredited college or university and a minimum of four years of experience as a safety professional and who has successfully completed both levels of the examination administered by the Board of Certified Safety Professionals and who is currently certified.
36. Clean room: An uncontaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of workers' street clothes and protective equipment.
37. Clearance Air Monitoring: The employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers, and shall be performed as the final abatement activity.

38. Containment: An area which has been sealed with polyethylene sheeting to prevent contamination of asbestos to the outside environment.
39. Controlled Area: An area which can be separated off from occupied areas of the building for the purpose of controlling fiber release to the occupied areas of the building. This area is controlled so as to limit access and to ensure that, when accessed, all appropriate health and safety protocols are utilized.
40. Curtained Doorway: A device which consists of at least three overlapping sheets of plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached at the bottom to ensure that the sheets hang straight and maintain a seal over the doorway when not in use.
41. Decontamination Unit: A serial arrangement of rooms or spaces for the purpose of separating the work area from the building environment upon entering the work area and for the cleaning of persons, equipment, and contained waste prior to returning to the clean environment.
42. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
43. Disposal Bag: A properly labeled 6 mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.
44. Disturb: Any action taken which may alter, change, or stir, such as but not limited to the removal, encapsulation, enclosure, or repair of asbestos-containing material.
45. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.
    a. Bridging encapsulant: an encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.
    b. Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.
    c. Removal encapsulant: a penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather that for in situ encapsulation.
46. Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.
47. Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.
48. Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.
49. Fiber: An acicular single crystal or a similarly elongated polycrystalline aggregate which displays some resemblance to organic fibers by having such properties as flexibility, high aspect ratio, silky luster, axial lineation, and others, and which has attained its shape primarily through growth rather than cleavage.
50. Fiber Count: Average number of fibers in a cubic centimeter of air (f/cc).
51. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
52. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area.
53. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.

54. Friable Asbestos Material: Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
55. Friable Material Containment: The encapsulation or enclosure of any friable ACM in a facility.
56. Glovebag: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.
57. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.
58. HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
59. High-efficiency particulate air filter (HEPA): Refers to a filtering system capable of trapping and retaining 99.97 percent of all mono-dispersed particles 0.3 um in diameter or larger.
60. High Volume Sampling Pump: An instrument used to draw ambient air over a filter at a flow rate between ten (10) and thirty (30) liters per minute. The high volume sampling pumps are generally utilized for background or baseline samples, environmental samples, decontamination unit samples, and post-abatement samples.
61. Holding Area: A small chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.
62. Homogeneous Work Area: A portion of the work area which contains one type of asbestos-containing material and/or where one type of abatement is used.
63. Incidental Exposure: Occupational exposure to asbestos fibers caused to oneself by disturbing ACM during the performance of one's job, except during the performance of an asbestos project or minor project.
64. Industrial Hygiene/ Environmental Consultant: That science and art devoted to the recognition, evaluation and control of those environmental factors or stresses, arising in or from the work place, which may cause sickness, impaired health and well being, or significant discomfort and inefficiency among workers or among the citizens of the community.
65. Industrial Hygienist/ Environmental Consultant: An individual having a college or university degree or degrees in Engineering, Chemistry, Physics, or Medicine or related Biological Sciences who, by virtue of special studies and training must have been sufficient in all of the above cognate sciences to provide the following abilities:
    a. To recognize the environmental factors and to understand their effect on people and their well being.
    b. To evaluate, on the basis of experience and with the aid of quantitative measurement techniques, the magnitude of these stresses in terms of ability to impair people's health and well being.
    c. To prescribe methods to eliminate, control or reduce such stresses when necessary to alleviate their effects.
66. Isolation Barrier: The construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal off the work place from surrounding areas to contain asbestos fibers in the work area.
67. Large Asbestos Project: The removal, enclosure, or encapsulation within one year of 160 square feet or more of asbestos-containing material used on an equipment, wall, or ceiling area; or involves the removal or encapsulation, using a liquid material applied by a pressurized spray, within one year of 260 linear feet or more of asbestos-containing material on covered piping.

68. Log: An official record of all activities that occurred during the project and it shall identify the Building Owner, Agent, Contractor, and Workers, and other pertinent information (e.g., equipment malfunctions, contamination beyond the work area, etc.).
69. Low Volume Sampling Pump: An instrument used to collect air samples at rates ranging from one (1) to three (3) liters per minute. The low volume sampling pump, also known as the personal sampling pump, is essentially utilized for personal samples and work area samples.
70. Minor Asbestos Project: Corrective action using recommended work practices to minimize the likelihood of fiber release from damaged areas of asbestos ceilings, pipe and boiler insulation which involves the removal, repair, encapsulation or enclosure of 25 square feet or less of asbestos-containing material used on an equipment, wall or ceiling area, or involves the removal or encapsulation, using a liquid material applied by a pressurized spray, of 10 linear feet or less of asbestos-containing material on covered piping within one year from the start of the initial abatement work. The repair, enclosure and encapsulation by methods other than pressurized spray of any amount of asbestos-containing material, used to cover piping, shall also be a minor asbestos hazard abatement project.
71. Movable Object: A unit of equipment or furniture in the work area which can be removed from the work area.
72. Negative Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration. The system shall be capable of creating a negative pressure differential between the outside and inside of the work area.
73. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
74. Negative Pressure Ventilation System: A pressure differential and ventilation system.
75. Occupied Area: An area of the worksite where abatement is not taking place and where personnel or occupants normally function or where workers are not required to use personal protective equipment.
76. Outside Air: The air outside the work place.
77. Permissible Exposure Limit: The permitted exposure to a particular concentration of a substance as specified by OSHA. The current permissible exposure limit for asbestos is 0.1 f/cc for an eight-hour (8) time-weighted average.
78. Personal Air Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.
79. Personal Protective Equipment (PPE): Appropriate protective clothing, gloves, eye protection, footwear, head gear and approved respiratory protection.
80. Plasticize: To cover walls and floors with plastic sheeting as herein specified or by using approved spray plastics.
81. Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans re-circulated air or generates a constant air flow from adjacent areas into the Work Area.
82. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
83. Qualitative Fit Test: The individual test subject's responding (either voluntarily or involuntarily) to a chemical challenge outside the respirator facepiece. Three of the most

popular methods include:

a. Irritant smoke test.

b. Odorous vapor test.

c. Taste test.

84. Quantitative Fit Test: Exposing the respirator wearer to a test atmosphere containing an easily detectable, nontoxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test atmosphere and the air inside the facepiece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the tests.

85. Removal: The stripping of any asbestos-containing materials from surfaces or components of a facility or taking out structural components in accordance with 40 CFR 61 Subparts A and M.

86. Replacement Material: Any material used to replace ACM that contains less than .01% asbestos by weight.

87. Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.

88. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

89. Shift: A worker's, or simultaneous group of worker's, complete daily term of work.

90. Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.

91. Small Asbestos Project: The removal, enclosure or encapsulation within one year of more than 25 and less than 160 square feet of asbestos-containing material used on an equipment, wall or ceiling area; or involves the removal or encapsulation, using a liquid material applied by a pressurized spray within one year of more than 10 and less than 260 linear feet of asbestos-containing material on covered piping.

92. Staging Area: The work area near the Waste Decontamination Chamber where containerized asbestos waste has been placed prior to removal from work area.

93. Strip: To remove friable Asbestos materials from any part of the facility.

94. Structural Member: Any load-supporting member of a facility, such as beams and load-supporting walls, or any non-load supporting member, such as ceiling and non-load supporting walls.

95. Surface Barriers: The plasticizing of walls, floors, and fixed objects within the work area to prevent contamination from subsequent work.

96. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

97. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.

98. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

99. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

100. Wet Methods: The use of amended water or removal encapsulants to minimize the generation of fibers during ACM disturbance.
101. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.
102. Worker: Certified asbestos handler and/or asbestos handler supervisor.
103. Work Place: The work area and the decontamination enclosure system(s).
104. Work Site: Premises where asbestos abatement activity is taking place and may be composed of one or more work areas.

1.5 SPECIFICATION FORMAT AND CONTENT EXPLANATION:

A. This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions. None of the explanations shall be interpreted to modify the substance of Contract requirements.

B. Specification Format: These Specifications are organized into Divisions, Sections or Trade Headings based on the Construction Specifications Institute's 16-Division format and the MASTERFORMAT numbering system. This organization conforms generally to recognized construction industry practice.

C. Specification Content: This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
   1. Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
   2. Imperative Language is used generally in the Specifications. Requirements expressed imperatively are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.

D. Assignment of Specialists: The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
   1. This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

E. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.6 DRAWING SYMBOLS:

A. Graphic symbols used on the Drawings are those recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic

Standards", published by John Wiley & Sons, Inc., seventh edition.

B. Mechanical/Electrical Drawings: Graphic symbols used on mechanical and electrical Drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, they are supplemented by more specific symbols recommended by technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Owner's Representative for clarification before proceeding.

1.7 INDUSTRY STANDARDS:

A. Applicability of Standards: Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.

1. Referenced industry standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.
2. Unreferenced industry standards are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.

B. Publication Dates: Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.

C. Updated Standards: At the request of the Owner's Representative, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Owner's Representative will decide whether to issue a Change Order to proceed with the updated standard.

D. Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Owner's Representative for a decision before proceeding.

E. Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the Owner's Representative for decision before proceeding.

F. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.
2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner's Representative reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.

G. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

1. AIHA - American Industrial Hygiene Association 475 Wolf Ledges Parkway Akron, OH 44311 216/762-7294.
2. AIA - American Institute of Architects 1735 New York Ave. NW Washington, DC 20006 202/626-7474.
3. ANSI - American National Standards Institute 143O Broadway New York, NY 10018 212/354-3300.
4. ASHRAE - American Society for Heating, Refrigerating, and Air Conditioning Engineers 1791 Tullie Circle NE Atlanta, GA 30329 404/636-8400.
5. ASME - American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017 212/705-7722.
6. ASPE - American Society of Plumbing Engineers 3716 Thousand Oaks Boulevard, Suite 210,Westlake, CA 91362 805/495-7120.
7. ASTM - American Society for Testing and Materials 1916 Race St. Philadelphia, PA 19103 215/299-5400.
8. AWCI - Association of the Wall and Ceiling Industries- International 25 K Street, NW Washington, DC 20002 202/783-2924.
9. CFR - Code of Federal Regulations Available from Government Printing Office; Washington, DC 20402 (usually first published in Federal Register) 202/783-3238.
10. CGA - Compressed Gas Association 1235 Jefferson Davis Highway Arlington, VA 22202 703/979-0900.
11. CS - Commercial Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402 202/377-2000.
12. DOT - Department of Transportation 400 Seventh St., SW Washington, DC 20590 202/426-4000.
13. EPA - Environmental Protection Agency 401 M St.,SW Washington, DC 20460 202/382-3949.
14. FS - Federal Specification (General Services Admin.) Obtain from your Regional GSA Office, or purchase from GSA Specifications Unit (WFSIS) 7th and D Streets, S.W. Washington, DC 20406 202/472-2205 or 2140.
15. GA - Gypsum Association 1603 Orrington Ave. Evanston; IL 60201 312/491-1744.
16. GSA - General Services Administration F St. and 18th St., NW Washington, DC 20405 202/655-4000.
17. IEEE - Institute of Electrical and Electronic Engineers 345 E. 47th Street New York, NY 10017 212/705-7900.
18. MIL - Military Standardization Documents (U.S. Dept. of Defense) Naval Publications and Forms Center, 5801 Tabor Ave. Philadelphia, PA 19120.
19. MSHA - Mine Safety and Health Administration, Approval and Certification Center, P.O. Box 251, Route 1, Triadelphia, WV 26059.
20. NBS - National Bureau of Standards (U.S. Dept. of Commerce) Gaithersburg, MD 20234 301/921-1000.

21. NEC - National Electrical Code (by NFPA).
22. NESHAP - National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).
23. NIOSH - National Institute for Occupational Safety and Health CDC - NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226
24. NFPA - National Fire Protection Association Batterymarch Park Quincy, MA 02269 617/770-3000.
25. NRCA - National Roofing Contractors Association 6250 River Road Rosemont, IL 60018 312/318-6722.
26. OSHA - Occupational Safety & Health Administration (U.S. Dept. of Labor) Government Printing Office Washington, DC 20402 202/783-3238.
27. PS - Product Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402 202/783-3238.
28. RFCI - Resilient Floor Coverings Institute 966 Hungerford Drive, Suite 12-B Rockville, MD 20805 301/340-8580.
29. UL - Underwriters Laboratories 333 Pfingsten Rd. Northbrook, IL 60062 312/272-8800.

H. Trade Union Jurisdictions: The Contractor shall maintain, and require subcontractors to maintain, complete current information on jurisdictional matters, regulations and pending actions, as applicable to construction activities. The manner in which Contract Documents have been organized and subdivided is not intended to indicate trade union or jurisdictional agreements.

1. Discuss new developments at project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.
2. Assign and subcontract construction activities, and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

1.8 SUBMITTALS:

A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01092

CODES, REGULATIONS, AND STANDARDS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY:

A. This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.

1. Requirements include adherence to all work practices and procedures set forth in applicable codes, regulations and standards and this specification.
2. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

1.3 CODES AND REGULATIONS:

A. General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

C. Federal Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

D. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

1. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations
2. Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations
3. Construction Industry Title 29, Part 1926, of the Code of Federal Regulations
4. Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations
5. Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations

6. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations

E. DOT: U. S. Department of Transportation, including but not limited to:
   1. Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations

F. EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:
   1. Asbestos Abatement Projects; Worker Protection Rule Title 40 Part 763, Sub-part G of the Code of Federal Regulations
   2. Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E of the Code of Federal Regulations
   3. Training Requirements of (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations.
   4. National Emission Standards for Hazardous Air Pollutants (NESHAP) National Emission Standard for Asbestos Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of Federal Regulations

G. State Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
   1. Air Pollution Control Act, Chapter 124.
   2. Bureau of Solid Waste Management Major Asbestos Standards.
   3. Commonwealth of Pennsylvania Department of Labor and Industry Asbestos Occupations Accreditation and Certification Act, Act 194-1990

H. Local Requirements: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

1.4 STANDARDS:

A. General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.

C. Standards: which apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
   1. American National Standards Institute (ANSI) 1430 Broadway New York, New York 10018 (212)354-3300E
      a. Fundamentals Governing the Design and Operation of Local Exhaust Systems Publication Z9.2-79
      b. Practices for Respiratory Protection Publication Z88.2-80

2. American Society for Testing and Materials (ASTM) 100 Bar Harbor Drive, Conshohocken, PA 19428 (610)832-9585
    a. Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849-82

1.5 EPA GUIDANCE DOCUMENTS: discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):

A. Asbestos-Containing Materials in School Buildings - A Guidance Document. Part 1 & 2. (Orange Books) EPA C00090 (out of print)

B. Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024

C. Friable Asbestos-Containing Materials in Schools: Identification and Notification Rule (40 CFR Part 763)

D. Evaluation of the EPA Asbestos-in-Schools Identification and Notification Rule. EPA 560/5-84-005

E. Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials. EPA 560/5-84-006

F. Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018

G. Asbestos Waste Management Guidance. EPA 530-SW-85-007

H. Asbestos Fact Book. EPA Office of Public Affairs. Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials

I. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification

J. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001

1.6 NOTICES:

A. U.S. ENVIRONMENTAL PROTECTION AGENCY

1. Send Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact at least 10 days prior to beginning any work on asbestos-containing materials. Send notification to the following address:
2. USEPA REGION 3: Asbestos NESHAP Contact, Air & Waste Management Division, 841 Chestnut Street, Philadelphia, PA 19107, (215) 597-6552.
3. Notification: Include the following information in the notification sent to the NESHAP contact:
    a. Name and address of owner or operator.
    b. Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.
    c. Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components. For facilities in which the amount of friable asbestos materials is less than 260 linear feet

on pipes and less than 160 square feet on other facility components, explain techniques of estimation.

d. Location of the facility being demolished or renovated.

e. Scheduled starting and completion dates of demolition or renovation.

f. Nature of planned demolition or renovation and method(s) to be used.

g. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61 Subpart M).

h. Name and location of the waste disposal site where the friable asbestos waste material will be deposited.

i. For facilities being demolished under an order of a State or local governmental agency, issued because the facility is structurally unsound and in danger of imminent collapse, the name, title, and authority of the State or local governmental representative who has ordered the demolition.

B. STATE AND LOCAL AGENCIES:

1. Send written notification as required by state and local regulations prior to beginning any work on asbestos-containing materials.

1.7 PERMITS:

A. The Contractor shall obtain all required Permits, and pay all Fees associated with their contract.

B. All asbestos containing waste is to be transported by an entity maintaining a current “Industrial waste hauler permit” specifically for asbestos-containing materials, as required for transporting of waste asbestos-containing materials to a disposal site.

1.8 LICENSES:

A. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.9 POSTING AND FILING OF REGULATIONS:

A. Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulation and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.10 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative for review. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

B. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:

1. State and Local Regulations: Submit copies of codes and regulations applicable to the work.

2. Notices: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.
3. Permits: Submit copies of current valid permits required by state and local regulations.
4. Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01301

SUBMITTALS

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 SUMMARY:

A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:
   1. Contractor's construction schedule.
   2. Submittal schedule.
   3. Daily construction reports.
   4. Shop Drawings.
   5. Product Data.
   6. Miscellaneous Submittals.

B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
   1. Permits.
   2. Applications for Payment.
   3. Performance and Payment Bonds.
   4. Insurance Certificates.
   5. List of Subcontractors.

1.3 SUBMITTAL PROCEDURES:

A. Coordination: Transmit each submittal sufficiently in advance of performance of related activities to avoid delay.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE:

A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".
   1. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
   2. Indicate completion and Clearance of each Work Area in Advance of the date established for Substantial Completion. Allow time for testing and other Owner's Representative's procedures necessary for certification of Clearance and Substantial Completion.

B. Phasing: Provide notations on the schedule to show how the sequence of the work is affected by requirements for phased completion.

C. Work Stages: Indicate important stages of construction for each major portion of the work, including testing and installation.
   1. Preparation of the Work Area.
   2. Asbestos Removal.
   3. Clearance Testing.
   4. Substantial Completion.

D. Area Separations: Provide a separate time bar to identify each Work Area or major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.

E. Distribution: Following response to the initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with scheduled dates.

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

1.5 SUBMITTAL SCHEDULE:

A. Listing: Below is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

1.6 PRODUCT DATA:

A. Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves.

B. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
   1. Manufacturer's printed recommendations.
   2. Compliance with recognized trade association standards.
   3. Compliance with recognized testing agency standards.
   4. Application for testing agency labels and seals.

C. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.

D. Submittals: Submit 1 copy of each required submittal.

1.7 MISCELLANEOUS SUBMITTALS:

A. Material Safety Data Sheets: Process material safety and data sheets as “product data.”

B. Closeout Submittals: Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.

C. Record Documents: Furnish set of original documents as maintained on the project site.

PART 2 PRODUCTS (Not Applicable).

PART 3 EXECUTION (Not Applicable).

END OF SECTION

SECTION 01410

AIR MONITORING

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 work of this section.

B. Air Monitoring: Work area clearance is described in Section 01714 Work Area Clearance.

1.2 DESCRIPTION OF THE WORK:

A. Not in Contract Sum: This section describes work being performed by the Environmental Consultant. This work is not in the Contract Sum.

B. This section describes air monitoring carried out by the Environmental Consultant to verify that the building beyond the work area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.

C. Air monitoring required by OSHA is work of the Contractor and is not covered in this Section. The Abatement Contractor is responsible for providing daily OSHA compliance monitoring as per 29 C.F.R. 1926.1101. OSHA monitoring shall be included in the Asbestos Contractor's Contract Sum.

1.3 AIR MONITORING:

A. Work Area Isolation: The purpose of the Environmental Consultant's air monitoring is to detect faults in the work area isolation such as:
   1. Contamination of the building outside of the work area with airborne asbestos fibers.
   2. Failure of filtration or rupture in the differential pressure system.
   3. Contamination of air outside the building envelope with airborne asbestos fibers.

B. Should any of the above occur, immediately cease asbestos abatement activities until the fault has been corrected. Do not recommence work until authorized by the Environmental Consultant.

1.4 WORK AREA AIRBORNE FIBER COUNT:

A. The Environmental Consultant will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be 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.

1.5 WORK AREA CLEARANCE:

A. To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Environmental Consultant will sample and analyze air per Section 01714 Work Area Clearance.

B. The Environmental Consultant will be conducting air monitoring throughout the course of the project.

1.6 STOP ACTION LEVELS:

A. Inside Work Area:

1. 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 Environmental Consultant. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Environmental Consultant.

STOP ACTION LEVEL (f/cc)	IMMEDIATE STOP LEVEL (f/cc)	MINIMUM RESPIRATOR REQUIRED	PROTECTION FACTOR
0.5	1.0	Type A half-face	10

2. If airborne fiber counts exceed Immediate Stop Level given above for type of respiratory protection in use for any period of time cease all work except corrective action. Notify the Environmental Consultant. Do not recommence work until fiber counts fall below Stop Action Level given above for the type of respiratory protection in use. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Environmental Consultant.

B. Outside Work Area:

1. If any air sample taken outside of the Work Area exceeds the base line established below or is greater than 0.010 f/cc as determined by PCM analysis, immediately and automatically stop all work except corrective action. The Environmental Consultant shall inspect and determine the source of the high reading and so notify the Contractor in writing.
2. 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 01714 Work Area Clearance.
    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 01714 Work Area Clearance.

3. If the high reading was the result of other causes initiate corrective action as determined by the Environmental Consultant.

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 or negligence. The Contract Sum and schedule will be reviewed and may be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

1.7 ANALYTICAL METHODS:

A. The following methods will be used by the Environmental Consultant 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 methodology.
2. Transmission Electron Microscopy (TEM) will be performed using the AHERA guidelines found in 40 CFR Part 763 Appendix A sub part E.

1.8 SAMPLE VOLUMES:

A. General: The number and volume of air samples taken by the Environmental Consultant will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical method used and the site conditions.

1.9 SCHEDULE OF AIR SAMPLES:

A. Daily:
1. From start of work of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Environmental Consultant may be taking the following samples on a daily basis:
a. Inside the Work Area: A minimum of one (1) sample shall be taken per work shift. A low volume sampler shall be employed, drawing a minimum sample volume of 180 liters.
b. Outside the Work Area, but inside the building: Two (2) samples shall be taken per work shift. A high volume sampler shall be employed, drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc. The sampling device shall be placed in locations where potential contamination could occur (e.g. outside entrances and exits to the Work Area) and shall be moved periodically to assess the potential for contamination of adjacent areas at all critical points in the containment system. Special attention shall be given to locations where exhaust ducts from air filtration devices run through occupied areas of the building.
c. In the Clean Room of the Personnel/Waste Decontamination Unit: A minimum of one (1) sample shall be taken in the Decontamination Unit Clean Room per work shift. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc. The sample(s) shall be taken at a time when activity

levels are expected to be at their peak (e.g. shift breaks).

d. Downwind of Air Filtration Unit Exhaust: Where feasible due to onsite conditions, one (1) sample shall be taken per work shift to evaluate potential fiber escape through the Air Filtration Device. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc.

e. The Analytical Method for all daily environmental monitoring shall be Phase Contrast Microscopy (PCM) (NIOSH 7400).

B. Additional samples may be taken at the Environmental Consultant's discretion. If airborne fiber counts exceed allowable limits, additional samples will be taken as necessary to monitor fiber levels.

1.10 LABORATORY TESTING:

A. The services of a testing laboratory may be employed by the Environmental Consultant to perform laboratory analyses of the air samples. A microscope and technician may be set up at the job site, or samples will be sent by courier so that verbal reports on air sample results can be obtained within 24 hours of the start time of the samples. The Contractor shall have access to all air monitoring tests and results.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 ADDITIONAL TESTING:

A. The Contractor may conduct his/her own air monitoring and laboratory testing. If he/she elects to do this, the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

3.2 PERSONAL MONITORING:

A. The Environmental Consultant shall not perform air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose.

END OF SECTION

SECTION 01503

TEMPORARY FACILITIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

A. General: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

1.3 SUBMITTALS:

A. Before the Start of Work: Submit the following to the Owner's Representative for review. Begin no work until these submittals are approved by the Owner's Representative.
   1. Scaffolding: Submit list of rolling and fixed scaffolding intended for use on the project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.
   2. Hot water heater: Submit manufacturers name, model number, size in gallons, heating capacity, power requirements.
   3. Decontamination Unit Sub-panel: Submit product data.
   4. Ground Fault Circuit Interrupters (GFCI): Submit product data.
   5. Lamps and Light Fixtures: Submit product data.
   6. Self-Contained Toilet Units: Provide product data and name of subcontractor to be used for servicing self-contained toilets. Submit method to be used for servicing.
   7. First Aid Supplies: Provide list of contents of first aid kit. Submit in form of check list.
   8. Fire Extinguishers: Provide product data. Submit schedule indicating location at job site.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

A. General: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

2.2 SCAFFOLDING:

A. Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.

B. The rungs of all metal ladders, etc. shall be equipped with an abrasive non-slip surface.

C. All surfaces subject to foot traffic shall have a nonskid surface. Surfaces shall be cleaned as required to remove slippery materials.

D. At the completion of the removal work, all construction aids shall be cleaned within the work area (encapsulated for wood) and wrapped in one layer of six (6) mil polyethylene sheeting and sealed before removal from the work area.

2.3 WATER SERVICE:

A. Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.

B. Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.

C. Hot Water Heater: Provide UL rated 30 gallon electric hot water heater to supply hot water for the Decontamination Unit shower. Activate from 30 amp circuit breaker located within the Decontamination Unit subpanel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with type L copper. Drip pans shall consist of a 12" X 12" X 6" deep pan, made of 19 gauge galvanized steel, with handles. A 3-quart kitchen saucepan may be substituted for this purpose. Drip pan shall be securely fastened to the hot water heater with bailing wire or similar material. Wiring of the hot water heater shall be in compliance with NEMA, NECA, and UL standards.

D. Hot Water: May be secured from the building hot water system, provided backflow protection is installed at the point of connection as described in this section under Temporary Water Service connection, and if authorized in writing by the Owner's Representative.

2.4 ELECTRICAL SERVICE:

A. General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.

B. Temporary Power: Provide service to Decontamination Unit subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect connected to the buildings main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.

C. Voltage Differences: Provide identification warning signs at power outlets which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.

D. Ground Fault Protection: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI)

equipped with test button and reset switch for all circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate the panel exterior to Work Area.

E. Electrical Power Cords: Use only grounded extension cords; use "hard service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.

F. Lamps and Light Fixtures: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the work or this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture. Use of building lighting fixtures is strictly prohibited.

2.5 TEMPORARY HEAT:

A. Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the fuel being consumed. Use steam or hot water radiation heat where available, and where not available use electric resistant fin radiation supplied from a branch circuit with ground fault circuit interrupter.

2.6 FIRST AID:

A. Comply with governing regulations and recognized recommendations within the construction industry.

2.7 FIRE EXTINGUISHERS:

A. Provide Type “A” fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type “ABC” dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case. The fire extinguishers shall comply with the applicable recommendations of NFPA Standard 10 “Standard for Portable Fire Extinguishers”. Provide not less than one extinguisher in each work area in the equipment room of the decontamination unit and one outside the work area in the clean room. Distance between fire extinguishers within the work area shall not exceed seventy-five (75) feet.

PART 3 EXECUTION

3.1 SCAFFOLDING:

A. During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.

B. Clean as necessary, debris from non-slip surfaces.

C. At the completion of abatement work clean all construction aids within the work area, wrap in one layer of 6 mil polyethylene sheeting and seal before removal from the Work Area.

3.2 INSTALLATION, GENERAL:

A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.

B. Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed.

C. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

D. The Contractor shall coordinate with the Building Owner for connection to existing building utilities. No connections shall be executed without prior approval of the building owner.

3.3 WATER SERVICE:

A. Water connection (without charge) to Owner's existing potable water system is the responsibility of the Contractor. Install using vacuum breakers or other backflow preventer as required by local authority. Hot water shall be supplied at a minimum temperature of 100 F. Supply hot and cold water to the Decontamination Unit in accordance with Section 01516. In addition, water shall be supplied for all worksite uses.

B. Maintain hose connections and outlet valves in leak proof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

3.4 ELECTRICAL SERVICE:

A. Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.

B. Lockout all existing power to or through the work area as described below. Unless specifically noted otherwise existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.

1. Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Lock panel and have all keys under control of the Owner's designated Representative.
2. Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Sign and date danger tag. Lock panel and turn keys over to the Owner's Representative for control. If circuits cannot be shut down for any reason, label at intervals 4’-0” on center with tags reading, “DANGER live electric circuit. Electrocution hazard”.

C. Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing building electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by Owner or Owner's Representative.

D. Upon request provide and bear all costs associated with off-hour or twenty-four (24) hour electrical service to the work area as required by the Building Owner for Air Monitoring services.

E. Power Distribution System: Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.

F. Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. Do not use outlet type GFCI devices.

G. Temporary wiring in the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.

H. Number of Branch Circuits: Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:

1. One Circuit for each HEPA filtered fan unit.
2. For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).
    a. One outlet in the work area for each 2500 square feet of work area
    b. One outlet at each decontamination unit, located in equipment room
3. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use while conducting air sampling during the work as follows:
    a. One in each work area
    b. One at clean side of each Decontamination Unit.
    c. One at each exhaust location for HEPA filtered fan units
4. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use for conducting final air sampling as set forth in Section 01714 Work Area Clearance as follows:
    a. Five inside work area
    b. Two outside work area in location designated by Owner's Representative

3.5 TEMPORARY LIGHTING:

A. Lockout: Lock out all existing power to lighting circuits in Work Area as described in section 01526 Temporary Enclosures. Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.

B. Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level.
    a. One 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stair ways and at ladder runs, provide one lamp minimum per story, located to illuminate each landing and flight. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.

C. Provide lighting in areas where work is being performed as required to supply a 100 foot candle minimum light level.

D. Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.
E. Provide lighting in the Decontamination Unit as required to supply a 50 foot candle minimum light level.
F. Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.
G. Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

3.6 TEMPORARY HEAT:

A. General: Provide temporary heat where indicated or needed for performance of work.

B. Maintain a minimum temperature of 70 degrees F where finished work has been installed.

C. Maintain a minimum temperature of 75 degrees F in the shower of the decontamination unit.

D. Maintain a minimum temperature of 70 degrees F in the Work Area at all times that work is being performed. At all other times and at the completion of removal work, but before the start of reconstruction work, maintain a minimum temperature of 50 degrees F.

E. Maintain a minimum temperature of 70 degrees F in the Work Area at all times during and after removal work.

3.8 FIRE EXTINGUISHERS:

A. Fire Extinguishers: Comply with the applicable recommendations of NFPA Standard 10 “Standard for Portable Fire Extinguishers”. Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area in the Equipment Room and one outside Work Area in the Clean Room.

END OF SECTION

SECTION 01513

TEMPORARY PRESSURE DIFFERENTIAL & AIR FILTRATION SYSTEM

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 MONITORING:

A. The Contractor shall supply a digital manometer with a continuous recorder (e.g. strip chart) and alarm for the purpose of continuously monitoring and recording the pressure differential between the Work Area and the building outside of the Work Area. The Contractor shall be solely responsible for providing competent individual(s), to perform asbestos work to observe and monitor the work area(s) and digital manometer readings. This individual shall be authorized and capable of investigating and remediating any drop in the pressure differential system between the work area(s) and the building outside the work area.

1.3 SUBMITTALS:

A. Before Start of Work: Submit design of pressure differential system to the Environmental Consultant for review. Do not begin work until the submittal is approved. Include in the submittal:

1. Number of HEPA-equipped air filtration units required and the calculations necessary to determine the number of machines.
2. Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the work area.
3. Anticipated pressure differential across Work Area enclosures.
4. Description of methods of testing for correct air flow and pressure differentials.
5. Manufacturer's product data on the HEPA-equipped air filtration units to be used.
6. Location of the machines in the Work Area.
7. Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power.
8. Description of work practices to insure that airborne fibers travel away from workers.
9. Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area.

B. On a weekly basis: Submit the printout from the pressure differential monitoring equipment. Mark the printout with date and start time for each day. Use printout paper that indicates elapsed time in intervals no greater than hours. Indicate on each days' record, times of starting and stopping abatement work, type of work in progress, breaks for lunch and other purposes, periods of stop work, and filter changes. Cut printout into segments by day, attach to 8 ½" by 11" paper. Label with project name, Contractor name and date.

1.4 QUALITY ASSURANCE:

A. Monitor pressure differential at Personnel and Equipment Decontamination Units with one or more digital manometers equipped with a continuous recorder. Manometers shall be equipped with a warning buzzer which will sound if pressure differential drops below negative 0.03 inches of water column.

PART 2 PRODUCTS

2.1 HEPA-EQUIPPED AIR FILTRATION UNITS:

A. General: Supply the required number of HEPA-equipped air filtration units to the site in accordance with these specifications. A minimum of one additional unit shall be installed as a backup to be used during primary unit filter changing and upon unit failure. Use units that meet the following requirements:

1. Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:
    a. Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance.
    b. Arranged to provide access to and replacement of all air filters from intake end.
    c. Mounted on casters or wheels.
2. Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions.
3. HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.
    a. Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.
    b. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 µm dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.
    c. Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.
    d. Pre-filters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. Provide units with the following pre-filters:
        i. First-stage pre-filter: low-efficiency type (e.g., for particles 100 µm and larger).
        ii. Second-stage (or intermediate) filter: medium efficiency (e.g., effective for particles down to 5 µm).
    e. Provide units with pre-filters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.
4. Instrumentation: Provide units equipped with:
    a. Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed.

b. A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point.

c. Elapsed time meter to show the total accumulated hours of operation.

5. Safety and Warning Devices: Provide units with the following safety and warning devices:
   a. Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter.
   b. Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge.
   c. Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red).
   d. Audible alarm if unit shuts down due to operation of safety systems.
6. Electrical components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.
7. Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
   a. Aerospace America, Inc. “Aero-Clean 2000” 900 Truman Parkway P.O. Box 189 Bay City, Michigan 48707A
   b. Asbestos Control Technology, Inc. “Micro-Trap” P.O. Box 183 Maple Shade, NJ 08052
   c. Control Resource Systems, Inc. “Hog” 2000 670 Mariner Drive Michigan City, Indiana 46360
   d. Global Consumer Services, Inc. “Red Baron” 1721 N. Highland Avenue Los Angeles, CA 90028
   e. Tri-Dim Filter Corporation “ACCU-2M” 1431 West Lake Street Chicago, Illinois 60607
   f. Or Approved Equal

PART 3 EXECUTION

3.1 PRESSURE DIFFERENTIAL ISOLATION:

A. Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

B. Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of negative 0.03 inches of water, at a minimum.

C. Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:

1. Establish required air circulation in the work area, personnel and equipment decontamination units.
2. Establish isolation by increased pressure in adjacent areas or as part of seals where required.
3. Exhaust a sufficient number of units from the work area to develop one complete air exchange every fifteen (15) minutes.
4. The required number of units is the number determined above plus one additional unit.

D. Vent HEPA filtered fan units to outside of building unless authorized in writing by Environmental Consultant.
1. Mount units to exhaust directly or through disposable ductwork.
2. Use only new ductwork except for sheet metal connections and elbows.
3. Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.
4. Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.
5. If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire-reinforced flex duct after direction change.
6. change direction. Use six feet of spiral wire-reinforced flex duct after direction change.

3.2 AIR CIRCULATION IN THE WORK AREA:

A. Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.

B. Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.

C. Determining the Air Circulation Requirements: Provide a fully operational air circulation system supplying a minimum of four (4) air changes per hour.

D. Determine Number of Units needed to achieve required air circulation according to the following procedure:
1. Determine the volume in cubic feet (CF) of the work area by multiplying floor area (LxW) by ceiling height (H) = (*length x width x height = CF*):

Cubic Footage for Work Area:	13,000	cubic feet

Determine total Air Circulation Required in cubic feet per minute (CFM) for the work area by multiplying this volume by the air change rate (4) and dividing by 60. This will give you Air Circulation Required in Cubic Feet of Air per Minute (CFM or ft^3/min):

$$\left(\frac{Volume\ of\ Work\ Area\ (CF)}{1} X \frac{4\ \ (number\ of\ air\ changes\ per\ hour)}{60\ (minutes\ per\ hour)} \right)$$

Air Circulation Required:	(13,000/1)*(4/60)=	**866.6667 ft3/min**

2. Determine the total capacity of the air filtration devices (AFD) by taking nine (9) measurements across the face of each AFD using an anemometer set to read feet/ minute.

AFD Measurements:

AFD 1	589	510	510	2'
	466	370	431	
	352	370	466	
	2'			

AFD 2	387	370	352	2'
	308	352	370	
	370	370	290	
	2'			

If the anemometer reads in miles per hour (MPH) must covert this to ft/ min:

$$(\text{MPH X } \frac{5{,}280}{60} - \text{ft/min})$$

3. Add the nine (9) measurements together for each AFD, divide that number by 9 and multiply the result times the square footage of the AFD pre-filter for the ft^3/min for each AFD:

Actual Capacity for Each AFD:

AFD 1 (589+510+510+466+370+431+352+370+466)/9= 451.5556
451.556*(2x2)SF= **1806.222 ft3/min**

AFD 2 (387+370+352+308+352+370+370+370+290)/9= 352.1111
352.1111*(2x2)SF= **1408.444 ft3/min**

4. Add the ft^3/min up for all AFDs and divide by number of AFDs, onsite for Total Capacity of Units:

Average Capacity for All AFDs (1806.222+1408.444)/2 AFDs= **1607.333333 ft3/min**

5. Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics. Number of Units Required:

$$\left(\frac{Air\ Circulation\ Required\ (CFM)}{Total\ Capacity\ of\ Units\ (CFM)}\right)$$

Number of AFDs Required 866.6667/1607.333= **0.539195 AFDs**

1 AFD needed plus at least 1 backup

Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.

If calculation for capacity for an individual AFD is higher than what the AFD is rated for, re-take measurements ensuring correct scale is used

If current number of units is not enough and units are operating in Low mode, switch to High mode and re-take readings and re-calculate.

3.3 EXHAUST SYSTEM:

A. Pressure differential isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.

B. Exhaust all units from the Work Area to meet air circulation requirement of this section.

C. Location of HEPA-equipped air filtration units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.

D. Place the intake portion of the unit or its exhaust duct through an opening in the plastic barrier or wall covering. Seal the plastic sheeting around the unit or exhaust duct with tape.

E. Vent to Outside of Building, unless authorized in writing by the Environmental Consultant.

F. Decontamination Units: Arrange Work Area and decontamination units so that the majority of make-up air comes through the Decontamination Unit.

G. Supplemental Makeup Air Inlets: Provide where required for proper air flow through the Work Area in location approved by the Environmental Consultant by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

3.4 AIR CIRCULATION IN DECONTAMINATION UNITS:

A. Pressure Differential Isolation: Continuously maintain the pressure differential required for the work area in the:
   1. Personnel Decontamination Unit: across the Shower Room with the Equipment Room at a lower pressure than the Clean room.
   2. Equipment Decontamination Unit: Across the Holding Room with the Wash Room at a lower pressure than the Clean Room.

B. Air Circulation: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.

C. Air Movement: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room.

3.5 USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

A. General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section

01503 “Temporary Facilities”. Do not use existing branch circuits to power fan units.

B. Testing the System: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Industrial Hygienist.

C. Demonstrate Condition of Equipment for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:
   1. Squareness of HEPA Filter.
   2. Condition of seals.
   3. Proper operation of all lights.
   4. Proper operation of automatic shut down if exhaust is blocked.
   5. Proper operation of alarms.
   6. Proper operation of magnehelic gauge.
   7. Proper operation and calibration on pressure monitoring equipment.

D. Demonstrate Operation of the pressure differential system to the Industrial Hygienist will include, but not be limited to, the following:
   1. Plastic barriers and sheeting move lightly in toward Work Area.
   2. Curtain of decontamination units move lightly in toward Work Area.
   3. There is a noticeable movement of air through the Decontamination Unit.
   4. Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.
   5. Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.
   6. Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.

E. Modify the Pressure Differential System as necessary to demonstrate successfully the above.

F. Use of System During Abatement Operations:
   1. Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.
   2. Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Environmental Consultant. Supply sufficient pre-filters to allow frequent changes.
   3. Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and fan units are operating again.
   4. At completion of abatement work, allow fan units to run as specified under Section 01711 - Project Decontamination, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially

wetted asbestos material was encountered during any abatement work.

G. Dismantling the System:

1. When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.

END OF SECTION

TEMPORARY ENCLOSURES & WORK AREA PREPARATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUBMITTALS:

A. Before Start of Work submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.

B. For Spray Cement, submit the following:
   1. Product description including major components and solvents.
   2. Manufacturer's installation instructions. Indicate portions applicable to the project.
   3. Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for spray cement material proposed for use during the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

C. Sheet Plastic: For fire retardant plastic submit test reports on NFPA 701 test.

D. Signs: Submit samples of signs to be used.

PART 2 PRODUCTS

2.1 SHEET PLASTIC:

A. Polyethylene Sheeting: Provide flame-resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil thick as indicated, frosted or black as indicated.

B. Provide materials that meet the following fire safety requirements:
   1. When wet or being installed:
      a. Do not create combustible vapors.
      b. Have no flash point.
      c. Are not noxious.
      d. Department of Transportation category of non-friable
   2. When dry, material must have a Class A rating as a building material and meet the following requirements when tested in accordance with ASTM E-84.
      a. Flame Spread no greater than 20.
      b. Fuel Contributed 0.
      c. Smoke Developed no more than 110.
   3. Deliver materials to the job site in unopened, factory labeled containers.

2.2 MISCELLANEOUS MATERIALS:

A. Duct Tape: Provide duct tape in 2” or 3” widths as indicated, with an adhesive which is formulated to stick aggressively to polyethylene sheeting.

B. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to polyethylene sheeting.

PART 3 EXECUTION

3.1 SEQUENCE OF WORK:

A. Carry out work of this section sequentially. Complete each activity before proceeding to the next.
   1. The Work Area shall mean the location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A “Work Area” is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.
   2. The Contractor shall inspect each work location with the Environmental Consultant . The Contractor and Environmental Consultant shall agree on conditions of materials and worksite and select the appropriate abatement procedures. Should the Environmental Consultant and Contractor not be in agreement, the Building Owner and Environmental Consultant shall make the final decision.
   3. Completely isolate the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to owner.
   4. Each work area location shall be pre-cleaned as per Section 01013. Respirators and protective equipment are required as per Sections 01560 and 01562.
   5. Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to completion of Work Area isolation.
   6. Stationary restroom equipment (toilets, sinks, etc.) shall be completely covered with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped in place with duct tape and individually sealed. Such equipment shall be considered outside the work area unless covering plastic or seal is breached.
   7. Disable ventilating systems or any other system bringing air into or out of the Work Area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.
   8. Lockout power to the Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Lock panel and have all keys under control of the Owner's designated Representative.
   9. Lockout power to circuits running through work area wherever possible by switching off all breakers or removing fuses serving these circuits. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Lock panel and have all keys under control of the Owner's designated representative. If circuits cannot be shut down for any reason, label at intervals 4'-0” on center with tags reading, “DANGER live electric circuit. Electrocution hazard”. Label circuits in hidden locations but which may be affected by the work in a similar manner.

3.2 EMERGENCY PRECAUTIONS:

A. The Contractor shall prepare a contingency plan for emergencies including fire, accident, power failure, negative air system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation. Note that nothing in this Specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

B. The Contractor shall provide barricades and adequate protection to safely prevent accidental entrance to the abatement area by any building occupants. Signage shall be posted in visible locations a sufficient distance to allow an individual to take all necessary protective precautions prior to being exposed to airborne asbestos fiber concentrations.

C. Before the Contractor starts actual abatement of asbestos material, the local fire department and ambulance crews shall be notified, by the Contractor, as to the dangers of entering the work area. The Contractor shall make every effort to help these agencies and form plans of action should their personnel need to enter the contaminated area.

D. Local medical emergency personnel, both ambulance crews and hospital emergency room staff, shall be notified, by the Contractor, as to the possibility of having to handle injured work persons who are contaminated with asbestos dust. They shall be advised on safe decontamination procedures.

E. First aid shall comply with the governing regulations and all recognized recommendations within the construction industry.

F. Except as otherwise indicated, submit special reports directly to the Owner within one day of occurrence requiring special report, with copy to Owner's Representative, Project Consultants and others affected by occurrence.

3.3 EMERGENCY EXITS:

A. Provide emergency exits and emergency lighting as set forth below:
   1. Emergency Exits: At each existing exit door from the Work Area provide the following means for emergency exiting:
      a. Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area.
      b. Mark outline of door on Primary and Critical Barriers with luminescent paint at least 1” wide. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint words “EMERGENCY EXIT” inside outline with luminescent paint in letters at least one foot high and 2" thick.
      c. Provide lighted, battery powered exit sign at each exit.

3.4 CONTROL ACCESS:

A. Isolate the Work Area to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:
   1. Coordinate with the Industrial Hygienist the doors and other openings that must be secured to isolate Work Area.
   2. After receiving authorization from the Industrial Hygienist, lock all doors into Work Area. If doors cannot be locked, chain shut. Cover any signs that direct emergency exiting, either outside or inside of Work Area, to locked doors. Do not obstruct doors required for emergency

exits from Work Area or from building.

3. Fabricate partitions from 2 X 4 wood studs with ½" plywood on one face. Brace at 16" on center.

B. Locked Access: Arrange Work Area so that the only access into Work Area is through lockable doors to personnel and equipment decontamination units.

C. Provide Warning Signs at each locked door leading to Work Area reading as follows: Print text in both English and Spanish:

LEGEND	NOTATION
KEEP OUT	3" Sans Serif Gothic or Block
BEYOND THIS POINT	1" Sans Serif Gothic or Block
ASBESTOS ABATEMENT WORK	1" Sans Serif Gothic or Block
IN PROGRESS	1" Sans Serif Gothic or Block
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH	14 Point Gothic

D. Immediately inside doors and outside critical barriers post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

3.5 LEGEND:

A. Provide spacing between respective lines at least equal to the height of the respective upper line.

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
IN THIS AREA
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

3.6 RESPIRATORY AND WORKER PROTECTION:

A. Before proceeding beyond this point in providing Temporary Enclosures:
   1. Provide Worker Protection per Section 01560
   2. Provide Respiratory Protection per Section 01562

B. Provide Personnel Decontamination Unit per Section 01563

3.7 CRITICAL BARRIERS:

A. Completely Separate the Work Area from other portions of the building, and the outside by closing all openings with two (2) layer sheet plastic barriers at least 6 mil in thickness each.

B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the Work Area with two (2) layers of polyethylene sheeting at least 6 mil in thickness each, individually taped securely in place with duct tape. Maintain seal until all work including Project Decontamination is completed.

C. Provide two (2) layers of Sheet Plastic barriers at least 6 mil in thickness as required to seal openings

completely from the Work Area into adjacent areas. Individually seal the perimeter of each sheet plastic barrier with duct tape and spray cement.

D. Mechanically Support sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic sheeting. Following are acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Owner's Representative:

1. Plywood squares 6" x 6" x 3/8" held in place with one 6d smooth masonry nail or electro-galvanized common nail driven through center of the plywood and duct tape on plastic so that plywood clamps plastic to the wall. Locate plywood squares at each end, corner and at maximum 4 feet on centers.
2. Nylon or polypropylene rope or wire with a maximum unsupported span of 10 feet, minimum ¼" in diameter suspended between supports securely fastened on either side of opening at maximum 1 foot below ceiling. Tighten rope so that it has 2" maximum dip. Drape plastic over rope from outside Work Area so that a two foot long flap of plastic extends over rope into Work Area. Staple or wire plastic to itself 1" below rope at maximum 6" on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without a "shelf" upon which debris could collect.

E. Provide Pressure Differential System per Section 01513.

F. Clean equipment, housings and ducts of any overspray materials prior to erection of any Critical Barrier that will restrict access.

3.8 PREPARE AREA:

A. Scaffolding: If fixed scaffolding is to be used to provide access, HEPA vacuum and wet clean area prior to scaffolding installation.

B. Remove all electrical and mechanical items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.

C. Remove all general construction items such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work. Clean, decontaminate and reinstall all such materials, upon completion of all removal work with materials, finishes, and workmanship to match existing installations before start of work.

D. Clean all furniture, equipment, and or supplies with a HEPA filtered vacuum cleaner or by wet cleaning, as specified in Section 01712 Cleaning and Decontamination Procedures, prior to being moved or covered. All equipment, furniture, etc. is to be deemed contaminated unless specifically declared as uncontaminated on the drawings or in writing by Environmental Consultant.

E. Clean all surfaces in the Work Area with a HEPA filtered vacuum or by wet wiping prior to the installation of the primary barrier.

3.9 PRIMARY BARRIER:

A. Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.

B. Sheet Plastic: Protect floor surfaces in the Work Area with two (2) layers of six (6) mil plastic sheeting

and wall surfaces with one (1) layer of six (6) mil. thick plastic sheeting, or as otherwise directed on the Contract Drawings.

1. Cover Floor of Work Area with 2 individual layers of polyethylene sheeting, each at least 6 mil in thickness. The first layer shall extend up the wall at least 12 inches. The second layer shall extend up the wall at least 24 inches. Form a sharp right angle bend at the junction of the floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Sheeting shall be sized to minimize seams. Install sheeting so that top layer can be removed independently of bottom layer.
2. Cover carpeting with three (3) layers of polyethylene sheeting at least 6 mil in thickness. Place corrugated cardboard sheets between the top and middle layers of polyethylene floor sheeting.
3. Cover all walls in the Work Area including "Critical Barrier" sheet plastic barriers with one layer of polyethylene sheeting, at least 6 mil in thickness, mechanically supported and sealed with duct tape and spray-glue, so as to overlap floor sheeting by at least 18 inches in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with duct tape.
4. All vertical and horizontal surfaces except those of asbestos-containing materials shall be sealed with polyethylene sheeting.
5. Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide ¾" exterior grade plywood treads securely held in place, over the plastic. Do not cover rungs or rails with any type of protective materials.
6. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

3.10 STOP WORK:

A. If the Critical or Primary barrier falls or is breached in any manner stop work immediately. Do not resume work until authorized in writing by the Industrial Hygienist.

3.11 EXTENSION OF WORK AREA:

A. Extension of Work Area: If a Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add the affected area to the Work Area, enclose it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

3.12 SECONDARY BARRIER:

A. Use a secondary layer of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work as specified in the appropriate work sections.

3.13 EXTERIOR ENCLOSURES:

A. Construct exterior enclosures utilizing rigid construction consisting of nominal 2x4 inch studs spaced 16 inches on center and covered with a minimum of one-half inch plywood or approved equal framing and board covering. The approved enclosure shall be covered with two (2) layers of 6 mil polyethylene sheeting.

END OF SECTION

SECTION 01560

WORKER PROTECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

A. This section describes the equipment and procedures required for protecting workers and site visitors against asbestos contamination and other workplace hazards except for respiratory protection.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. Respiratory Protection is specified in Section 01562.

1.4 WORKER TRAINING:

A. AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the AHERA regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

B. State and Local License: All workers are to be trained, certified and accredited as required by state or local code or regulation.

C. Train, in accordance with 29 CFR 1926, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:
   1. Methods of recognizing asbestos.
   2. Health effects associated with asbestos.
   3. Relationship between smoking and asbestos in producing lung cancer.
   4. Nature of operations that could result in exposure to asbestos.
   5. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:
      a. Engineering controls.
      b. Work practices.
      c. Respirators.
      d. Housekeeping procedures.
      e. Hygiene facilities.
      f. Protective clothing.
      g. Decontamination procedures.
      h. Emergency procedures.
      i. Waste disposal procedures.
   6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134.

7. Appropriate work practices for the work.
8. Requirements of medical surveillance program.
9. Review of 29 CFR 1926.
10. Pressure Differential Systems.
11. Work practices including hands on or on-job training.
12. Personal Decontamination procedures.
13. Air monitoring, personal and area.

1.5 MEDICAL EXAMINATIONS:

A. Provide medical examinations for all workers who may encounter an airborne fiber concentration level of 0.1 fibers per cubic centimeter (f/cc) or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber concentration data, provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926 In addition, provide an evaluation of the individuals' ability to work in environments capable of producing heat stress in the worker.

1.6 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative for review, if requested. Do not start work until these submittals are approved by the Environmental Consultant.

B. AHERA Accreditation: Submit copies of certificates from an EPA-approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

C. State and Local License: Submit evidence that all workers have been trained, and are currently certified and accredited as required by state or local code or regulation.

D. Report from Medical Examination: Conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:
   1. Name and Social Security Number
   2. Physicians Written Opinion from examining physician including at a minimum the following:
      a. Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
      b. Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
      c. Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
   3. Copy of information that was provided to physician in compliance with 29 CFR 1926
   4. Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

E. Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 EQUIPMENT

2.1 PROTECTIVE CLOTHING:

A. Provide fire-retardant “Tyvek” disposable protective clothing consisting of full-body coveralls, head covers, and boots as required by the most stringent OSHA standards applicable to the work and as manufactured by DuPont or approved equal. Eye protection, gloves, and safety shoes shall be worn. They shall be in accordance with ANSI Z89.1 (1969) and ANSI Z41.1 (1967).

B. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

C. Goggles: Provide eye protectives (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.

D. Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area, dispose of as asbestos-contaminated waste at the end of the work.

2.2 ADDITIONAL PROTECTIVE EQUIPMENT:

A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, Project Consultants, and other authorized representatives who may inspect the jobsite. Provide two (2) respirators and six (6) complete coveralls and where applicable provide six (6) respirator filter changes per day. Sufficient HEPA cartridges for powered air-purifying respirators shall be provided for the workers to change during the work shift. No HEPA cartridges shall be used longer than three (3) eight (8) hour work shifts. The respirators shall be worn at all times when in the contaminated area. There shall be no exceptions.

PART 3 EXECUTION

3.1 GENERAL:

A. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

B. Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

3.2 DECONTAMINATION PROCEDURES:

A. Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:

1. Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:

    a. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

b. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:

1) Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.

2) With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.

3) Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.

4) Carefully wash face piece of respirator inside and out.

5) If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this may short out and destroy the battery.

6) Shower completely with soap and water.

7) Rinse thoroughly.

8) Rinse shower room walls and floor prior to exit.

c. Proceed from shower to Clean Room and change into street clothes or into new disposable work items.

B. Remote Shower: The procedures above are to be used if the decontamination facility is used as a remote shower. If a worker cannot gain direct access to the Equipment Room require that he enter Decontamination Unit and proceed directly through Shower Room to Equipment Room. Decontamination procedure is then completed as required above.

C. Within the Work Area: Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, then dress in street clothes before entering the non-Work Areas of the building.

END OF SECTION

SECTION 01562

RESPIRATORY PROTECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

A. Instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber levels encountered in the work area or as required for other toxic or oxygen-deficient situations encountered.

1.3 STANDARDS:

A. Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

1. OSHA - U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1101 and Section 1910.134. 29 CFR 1926.58
2. CGA - Compressed Gas Association, Inc., New York, Pamphlet G-7, “Compressed Air for Human Respiration”, and Specification G-7.1 “Commodity Specification for Air”
3. CSA - Canadian Standard Association, Rexdal, Ontario, Standard Z180.1-00, “Compressed Breathing Air”
4. ANSI - American National Standard Practices for Respiratory Protection, ANSI Z88.2-1992
5. NIOSH - National Institute for Occupational Safety and Health
6. MSHA - Mine Safety and Health Administration

1.4 SUBMITTALS:

A. Before Start of Work submit the following to the Owner's Representative for review. Do not begin work until these submittals are approved by the Environmental Consultant.

B. Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.

C. System Diagram: When a Type “C” supplied air respiratory system is required by the work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor.

D. Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.

E. Respiratory Protection Program: Submit Contractor's written respiratory protection program manual as required by OSHA 1926.58.

F. Resume information: Submit resume and information on training for individual monitoring the operation of supplied air respiratory systems. Submit training certifications where applicable.

1.5 DELIVERY:

A. Deliver replacement parts, etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

PART 2 EQUIPMENT

2.1 AIR PURIFYING RESPIRATORS:

A. Respirator Bodies: Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.

B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for “Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists” and color coded in accordance with ANSI Z228.2 (1998). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

C. Non-permitted respirators: Do not use single use, disposable or quarter face respirators.

PART 3 EXECUTION

3.1 GENERAL:

A. Respiratory Protection Program: Comply with ANSI Z88.2 - 1992 “Practices for Respiratory Protection” and OSHA 29 CFR 1910 and 1926.

B. Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

C. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714.

D. Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used shall be half-face air-purifying respirators with high efficiency (HEPA) filters.

E. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

3.2 FIT TESTING:

A. Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of

training set up and administered by a Certified Industrial Hygienist. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing have been provided.

B. On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.

C. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1992).

3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED:

A. Provide respirator protection as follows:
   1. Negative pressure air-purifying respirators for all preparation, glove bag removal and Category I removal activities.
   2. Powered Air-Purifying Respirators: PAPR, positive pressure, full-face, or half-face respirators (if half-faced respirators are used, eye protection shall be provided by the Contractor).

3.4 PERMISSIBLE EXPOSURE LIMIT (PEL):

A. 8-Hour Time Weighted Average (TWA) of asbestos fibers to which any worker may be exposed shall not exceed 0.1 fibers/cubic centimeter.

3.5 RESPIRATORY PROTECTION FACTOR:

A. Respirator Type Protection Factor
   1. Air purifying: PF=10 - Negative pressure respirator High Efficiency filter half face-piece
   2. Air purifying: PF=50 - Negative pressure respirator High Efficiency filter full face-piece
   3. Powered Air Purifying (PAPR): PF=1000 - Positive pressure respirator High Efficiency filter Half or Full face-piece

3.6 AIR PURIFYING RESPIRATORS:

A. Air purifying - half or full face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior body of respirator, including head straps be washed each time a worker leaves the Work Area.

B. Powered air purifying full-face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, and be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

END OF SECTION

SECTION 01563

DECONTAMINATION UNITS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

A. Refer to Section 01503 Temporary Facilities for electrical requirements and requirements relative to connection of decontamination facilities to building systems such as water and electrical.

1.3 SUBMITTALS:

A. Before the Start of Work: Submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.

   a. Personnel Decontamination Unit: Provide shop drawing showing location and assembly of personnel decontamination units.

   b. Equipment Decontamination Unit: Provide shop drawing showing location and assembly of equipment decontamination units.

   c. Shower Pan: Provide shop drawing.

   d. Shower Walls: Provide product data.

   e. Shower Head and Controls: Provide product data.

   f. Filters: Provide product data and shop drawing of installation on decontamination unit.

   g. Hose Bib: Provide product data.

   h. Shower Stall: for Wash Down Station provide product data and shop drawing showing and modifications.

   i. Elastomeric membrane: Provide product data.

   j. Lumber: Provide product data on fire resistance treatment.

   k. Sump Pump: Provide product data.

   l. Signs: Submit samples of signs to be used.

PART 2 PRODUCTS

A. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6-mil thick as indicated, clear, frosted, or black as indicated.

B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6-mil thick as indicated, frosted or black as indicated.

C. Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701,

Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil thick as indicated, frosted or black as indicated.

D. Duct Tape: Provide duct tape in 2” or 3” widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

E. Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

F. Shower Pan: Provide one piece stainless steel shower pan with a minimum 6” depth, or approved equal.

G. Shower Walls: Provide 8' long by approximately 7' high walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability.

H. Shower Head and Controls: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Supply shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

I. Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

1. Primary Filter - Passes particles 20 microns and smaller.
2. Secondary Filter - Passes particles 5 microns and smaller.

J. Hose Bib: Provide heavy bronze angle type with wheel handle, vacuum breaker, and ¾” National Standard male hose outlet.

K. Shower Stall: For Wash Down Station provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bib, as specified in this section, mounted at approximately 4'-0” above drain pan. Connect drain to a reservoir, pump water from reservoir through filters to a drain or store and use for amended water. Mount filters inside shower stall on back wall beneath hose bib.

L. Elastomeric membrane: Provide uniform flat sheets of flexible sheet roofing material fabricated from EPDM (ethylene propylene diene monomers) or Neoprene (polychloroprene), in a nominal 45 mil thickness.

M. Lumber: Provide kiln dried lumber of any grade or species.

N. Sump Pump: Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3” remains between top of liquid and top of sump pan.

PART 3 EXECUTION

3.1 PERSONNEL DECONTAMINATION UNIT:

A. Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Clean Room, Shower Room, Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Provide temporary heating and lighting within Decontamination Units as necessary to provide safe and comfortable conditions. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretcher or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the work area.

B. Clean Room: Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.
   1. Construct using two (2) layers of opaque polyethylene sheeting, at least 6-mil in thickness, to provide an airtight seal between the Clean Room and the rest of the building.
   2. Locate so that access to Work Area from Clean Room is through Shower Room.
   3. Separate Clean Room from the building utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
   4. Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.
   5. Maintain floor of clean room dry and clean at all times. Do not allow overflow water from shower to wet floor in clean room.
   6. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
   7. Provide posted information for all emergency phone numbers and procedures.
   8. Provide 1 storage locker per employee.

C. Shower Room (contaminated area): Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading to the Work Area from the Clean Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.
   1. Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.
   2. Separate this room from the rest of the building with airtight walls fabricated of two (2) layers of opaque 6-mil polyethylene.
   3. Separate this room from the Clean Room utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
   4. Provide splash proof entrances to Clean Room with doors of flapped polyethylene.
   5. Provide shower head and controls supplied with hot and cold water adjustable within the shower.
   6. Provide a continuously adequate supply of liquid bath soap and shampoo and maintain in sanitary condition.
   7. Provide a continuously adequate supply of disposable bath towels.
   8. Arrange so that water from showering does not splash into the Clean or Equipment Rooms.
   9. Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.

10. Used filters shall be disposed of as asbestos-containing waste material.
11. Provide hose bib.

D. Equipment Room (contaminated area): Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

1. Separate this room from the Shower Room and the Work Area utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
2. Separate this room from the rest of the building with airtight walls fabricated of two (2) layers of opaque 6-mil polyethylene.
3. Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll the drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change with a clean drop cloth. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

E. Decontamination Sequence: Require that all workers and authorized visitors adhere to the following sequence when entering or leaving the Work Area.

1. All individuals that enter the work area shall sign the entry log, located in the clean room, upon each entry and exit.
2. Entering Work Area: Worker enters Clean Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.
    a. Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.
    b. Worker proceeds to Work Area.
3. Exiting Work Area:
    a. Before leaving the Work Area, require the worker to remove all gross contamination and debris from the outside of the respirator, and protective clothing by wet wiping and HEPA vacuuming.
    b. The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.
    c. Extra work clothing such as boots, hard hats, goggles, gloves are to be stored in contaminated end of the Equipment Room.
    d. Disposable coveralls are placed in a bag for disposal with other material.
    e. Require that Decontamination procedures found in Section 01560 be followed by all individuals leaving the Work Area.
    f. After showering, the worker moves to the Clean Room and dresses in either new coveralls for another entry or street clothes if leaving.

3.2 CONSTRUCTION OF THE DECONTAMINATION UNITS:

A. Walls and Ceiling: Construct airtight walls and ceiling using two (2) layers of polyethylene sheeting, at least 6-mil in thickness. Attach to existing building components or a temporary framework.

B. Floors: Use two (2) layers (minimum) of 6-mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.

C. Flap Doors: Fabricated from three (3) overlapping sheets with openings a minimum of four feet (4')

wide. Configure so that sheeting overlaps adjacent surfaces. Weigh sheets at bottoms so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of four feet (4') between entrance and exit of any room. Provide a minimum of four feet (4') between doors to airlocks.

D. If the Decontamination area is located at the exterior of the building, adjacent to occupied areas of the building or within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the decontamination unit with a protective shell as follows.
   1. Decontamination unit shall be framed with 2”x4” (min) fire-rated lumber at 16” on center.
   2. Walls and roof shall be covered with ½” (min) fire-rated plywood and all seams shall be caulked and sealed so as to provide an airtight barrier.
   3. The decontamination unit entrance shall be fitted with a lockable, louvered door.
   4. Two (2) layers of 6-mil polyethylene shall be applied to both sides of the airtight plywood enclosure.

E. Visual Barrier: Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the area adjacent to the Decontamination area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum 1/4 inch thick hardboard or 1/2 inch plywood. Where the solid barrier is provided, sheeting need not be opaque.

F. Alternate methods of providing Decontamination facilities may be submitted to the Owner's Representative for approval. Do not proceed with any such method(s) without written authorization of the Owner's Representative.

G. Electrical: Provide subpanel at Clean Room to accommodate all removal equipment. Power subpanel directly from a building electrical panel. Connect all electrical branch circuits to a ground-fault circuit protection device.

3.3 CLEANING OF DECONTAMINATION UNITS:

A. Clean debris and residue from inside of Decontamination Units on a daily basis. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.

B. If the Clean Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Clean Room as an inner section of the new Equipment Room.

3.4 SIGNS:

A. Post an approximately 20 inch by 14 inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:
   1. Provide signs in both English and Spanish.
   2. Legend:

DANGER - ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

3. Provide spacing between respective lines at least equal to the height of the respective upper line.
4. Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:
5. Provide signs in both English and Spanish.

LEGEND	NOTATION
NO FOOD, BEVERAGES OR TOBACCO PERMITTED	3/4" Block
ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE AREA	3/4" Block
ALL PERSONS SHALL SHOWER IMMEDIATELY AFTER LEAVING WORK AREA AND BEFORE ENTERING THE CHANGE AREA	3/4" Block

END OF SECTION

SECTION 01711

PROJECT DECONTAMINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

A. General: Decontamination of the Work Area following asbestos abatement.
   1. If the asbestos abatement work is on damaged or friable materials the work is a three step procedure with two cleanings of the Primary Barrier plastic prior to its removal and one cleaning of the room surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all materials are considered damaged or friable for purposes of this section.
   2. Operation of the pressure differential system is used to remove airborne fibers generated by the abatement work.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:
   1. Section 02081 Removal of Asbestos-Containing Materials.

B. Work Area Clearance: Air testing and other requirements which must be met before release of Contractor and re-occupancy of the work area are specified in Section 01714 Work Area Clearance.

PART 2 PRODUCTS

2.1 GENERAL:

A. Encapsulant shall be an asbestos binding compound such as Serpiflex Shield from Grace Construction Products or approved equal.

PART 3 EXECUTION

3.1 GENERAL:

A. Work of This Section includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials in the space.

B. Work of This Section includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:
   1. Primary and Critical Barriers erected by work of Section 01526.
   2. Decontamination Unit erected by work of Section 01563.

3. Pressure Differential System installed by work of Section 01513.

C. Work of this Section includes the cleaning, and decontamination of all surfaces (ceiling, walls, floors) of the Work Area, and all furniture or equipment in the Work Areas.

3.2 START OF WORK:

A. Previous Work: During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.

B. Start of Work: Work of this section begins with the cleaning of the Primary Barrier. At start of work the following will be in place:

1. Primary Barrier: Two layers of polyethylene sheeting on floor and one layer on walls and ceilings.
2. Critical Barrier: An airtight barrier between the Work Area and other portions of the building or the outside.
3. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.
4. Decontamination Units: For personnel and equipment in operating condition.
5. Pressure Differential System: In operation.

3.3 FIRST CLEANING:

A. First Cleaning: Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.

B. Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 Disposal of Asbestos-Containing Waste Material.

C. Wait twelve (12) hours to allow HEPA-equipped air filtration units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain Pressure Differential System in operation for the entire period.

D. After completion of the first cleaning operation of the facility, the Contractor shall give written notification to the Industrial Hygienist that a pre-encapsulation inspection is needed.

E. The industrial hygienist shall perform a visual inspection of the work area to ensure that it is dry and dust free.

F. After approval by the industrial hygienist, the Contractor shall spray coat all dried exposed surfaces with a sealant. The surfaces to be coated shall include the polyethylene which has been used to cover walls, floors, ceilings and non-removable fixtures and equipment.

G. Encapsulation of substrate: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, at this time. Maintain Pressure Differential System in operation during encapsulation work. Perform work only after meeting the following requirements:

1. Surfaces to be covered have met the requirements for a visual inspection in this section.

H. After the encapsulation of the polyethylene, the first layer shall be carefully removed and rolled up with the contaminated portion inside. All equipment, machinery, scaffolding, tools, etc. within the isolated work area shall be cleaned with amended water, moved to the equipment room, and properly removed from the work area.

3.4 SECOND CLEANING:

A. Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.

B. Removal of Primary Barriers:

1. Immediately following the second cleaning of the remaining layer of Primary plastic, remove all Primary Barrier sheeting and Material Decontamination Unit, if there is one, leaving only:
    a. Critical Barrier: Which forms the sole barrier between the Work Area and other portions of the building or the outside.
    b. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.
    c. Decontamination Unit: For personnel, in operating condition.
    d. Pressure Differential System: Maintain in continuous operation.

3.5 FINAL CLEANING:

A. Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleanings.

B. The Contractor shall request that a final clean up inspection be performed to insure all visible asbestos has been removed, the area is dust free and that the work area may have Post Removal Sampling. The Industrial Hygienist and the Contractor shall perform a complete visual inspection of the entire work area including:

1. Decontamination Unit.
2. Primary seals and critical barriers over ventilation openings, doorways, windows, and other openings.

C. Look for debris from any sources, residue on surfaces, dust or other matter. If any such debris, residue, dirt or other matter is found, repeat the final cleaning and continue decontamination procedure from that point.

D. When the area is visually determined to be clean and dry, post removal air sampling shall be performed.

E. During inspection time allow HEPA-equipped air filtration units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Areas during this period. Maintain Pressure Differential System in operation for the entire period.

F. The polyethylene sheeting used to maintain critical barriers between work areas and clean areas such as doorways, windows and air vents shall be sprayed with encapsulant, but not removed until air monitoring is completed and satisfactory results have been received. (Lockback)

3.6 VISUAL INSPECTION:

A. Temporary lighting: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.

B. Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

3.7 FINAL AIR SAMPLING:

A. After the work area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedures for PCM or TEM set forth in Section 01714 Work Area Clearance:
   1. If Release Criteria are not met, repeat Final Cleaning and continue Decontamination Procedure from that point.
   2. If Release Criteria are met, proceed to work of this Section on Removal of Work Area Isolation.

3.8 REMOVAL OF WORK AREA ISOLATION:

A. After all requirements of this section and Section 01714 Work Area Clearance have been met:
   1. Shut down and remove the Pressure Differential System. Seal HEPA-equipped air filtration units, HEPA vacuums and similar equipment with 6-mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.
   2. Remove Personnel Decontamination Unit.
   3. Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified herein.
   4. Remove all equipment, materials, and debris from the work site.
   5. Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Asbestos Containing Waste Material.

3.9 SUBSTANTIAL COMPLETION OF ABATEMENT WORK:

A. Asbestos Abatement Work is Substantially Complete upon meeting the requirements of this section and Section 01714 Work Area Clearance, including submission of:
   1. Certificate of Visual Inspection.
   2. Receipts Documenting proper disposal as required by Section 02084 Disposal of Asbestos-Containing Waste Material.
   3. Punch list detailing repairs to be made and incomplete items.

END OF SECTION

SECTION 01714

WORK AREA CLEARANCE

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1. Visual Inspection: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.
2. Air Monitoring: performed by the Environmental Consultant during abatement work, is described in Section 01410 Test Laboratory Services.

1.2 SUMMARY:

A. Not in Contract Sum:

1. This section describes work being performed by the Environmental Consultant. This work is not in the Contract Sum.
2. This Section sets forth required post-abatement airborne asbestos concentrations in the Work Area and describes testing procedures the Environmental Consultant will use to measure these levels.

1.3 CONTRACTOR RELEASE CRITERIA:

A. The Asbestos Abatement Work Area is cleared when the Work Area is visually clean and airborne asbestos structure concentrations have been reduced to the level specified below.

1. PCM clearance criteria shall be 0.010 fibers per cubic centimeter (f/cc), or
2. TEM clearance criteria shall be ≤ 70 structures per millimeter squared (S/mm^2) average for all collected samples.

1.4 CLEARANCE CRITERIA FAILURE:

A. Costs associated with the initial round of clearance sampling for each work area are not part of, and shall not be included in the Asbestos Contractor's Contract Sum.

B. In the event of clearance criteria failure, the Asbestos Contractor shall re-clean the work area in accordance with the specification and as directed by the Industrial Hygienist. All re-cleaning activities shall be performed at the Asbestos Contractor's expense. Additionally, all costs associated with subsequent clearance testing shall be deducted from the Asbestos Contractor's Contract Sum. The unit price schedule for air monitoring and analytical services are as follows:

- IH/ Environmental Consultant Labor - $160.00/hour
- PCM Sample - $20.00/sample
- TEM Sample - $100.00/sample

1.5 VISUAL INSPECTION:

A. Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the Project Administrator.

1.6 AIR MONITORING:

A. To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Environmental Consultant will secure samples and analyze them according to the following procedures:

1. PCM samples will be secured and analyzed as indicated below.
2. Transmission Electron Microscopy will be performed using the analysis methodology set forth in the AHERA regulation 40 CFR Part 763 Appendix A, SUBPART E.
3. Work Area Clearance: upon meeting the PCM Clearance or TEM Clearance requirements noted in 1.3 above, the work of Section 01711 Project Decontamination can continue.

1.7 SCHEDULE OF AIR SAMPLES:

A. General: The number and volume of air samples taken and analytical methods used by the Environmental Consultant will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical instruments used and site conditions.

1.8 LABORATORY TESTING:

A. PHASE CONTRAST MICROSCOPY: The services of a testing laboratory will be employed by the Environmental Consultant to perform laboratory analysis of the air samples. A microscope and technician may be set up at the job site, or samples will be sent by courier, so that verbal reports on daily air samples can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Environmental Consultant, the Owner and the Contractor.

B. TRANSMISSION ELECTRON MICROSCOPY: The services of a testing laboratory will be employed by the Environmental Consultant to perform laboratory analysis of the clearance air samples. Samples will be transported or sent by overnight mail, so that verbal reports on clearance air samples can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Environmental Consultant, the Owner and the Contractor.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 02081

REMOVAL OF ASBESTOS-CONTAINING MATERIAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of Contract, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

A. Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.

B. Project Decontamination procedures after removal of the Secondary Barrier are specified in Section 01711 Project Decontamination.

C. Disposal of asbestos-containing waste is specified in Section 02084 Disposal of Asbestos-Containing Waste Material.

1.3 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are approved by the Environmental Consultant.

1. Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.
2. Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.
3. NESHAP Certification: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet Asbestos-Containing Materials to which it is applied as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).
4. Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

PART 2 PRODUCTS

A. Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:

1. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

2. Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil thick as indicated, frosted or black as indicated.

C. Duct Tape: Provide duct tape in 2” or 3” widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

E. Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos-containing Waste Material.

F. Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.

G. Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

PART 3 EXECUTION

3.1 WORKER PROTECTION:

A. Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.2 GENERAL PROCEDURES FOR THE REMOVAL OF ASBESTOS-CONTAINING MATERIALS:

A. Preparation work for the removal of the identified asbestos-containing materials can utilize full containment with three-stage personnel decontamination units, air filtration units and digital negative air pressure differential monitoring systems and shall be performed utilizing respiratory protection and proper Personal Protective Equipment (PPE). Preparation work shall only be deemed to be complete and acceptable following a satisfactory inspection by the Environmental Consultant. Approval to proceed with removal activities shall be required in writing prior to commencing removal activities.

B. Preparation work for the removal of the identified non-friable asbestos-containing floor tile, floor tile mastic, air handler caulk, duct seam caulk, black cement windowsill, wallboard adhesive and pink sink undercoating shall utilize modified containment with a remote three-stage personnel decontamination unit and shall be performed utilizing respiratory protection and proper Personal Protective Equipment (PPE). Preparation should also include work area isolation utilizing asbestos danger tape and drop clothes.

C. Preparation work for the removal of the identified non-friable roof field, roof flashing, roof seam tar, pitch pockets and exterior concrete wall expansion caulk shall utilize modified exterior containment with a remote three-stage personnel decontamination unit and shall be performed utilizing respiratory protection and proper Personal Protective Equipment (PPE). Preparation should also include work area isolation utilizing asbestos danger tape and drop clothes.

D. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

E. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

F. Asbestos-containing material, removed by hand tools and roofing plow, shall be manually removed by scraping or cutting the saturated material from the base substrate.

G. Removal of the assumed asbestos containing fire doors shall be removed intact and segregated until interior materials can be sampled to determine if it is ACM prior to disposal.

H. Removal of the asbestos material shall be done in small sections by two-person teams, on staging platforms if needed. The wet material from each section shall be packed and sealed into labeled 6-mil polyethylene bags. When possible, one worker shall remove and hand sections of asbestos material to the other worker who shall then place the material into labeled 6-mil polyethylene bags.

I. Asbestos-containing and asbestos-contaminated materials located more than ten (10) feet above the floor shall be dropped into dust free enclosed inclined chutes, or dropped onto scaffolding, or containerized at that height for eventual disposal. Maximum inclination for chutes shall not exceed 60 degrees from horizontal. Asbestos-containing materials shall not be dropped or thrown to the floor from more than ten (10) feet. Asbestos-containing materials shall be handled carefully. No asbestos is permitted to drop directly to the floor. Any unnecessary agitation of the material is strictly prohibited.

J. All asbestos-containing and asbestos-contaminated materials shall be removed. The Contractor shall take care that all asbestos has been removed from fasteners, channels of support systems, construction blocks, ductwork and piping, and all other hard to reach places.

K. As a method of organizing the asbestos removal work, workers shall begin working on the areas nearest to the decontamination unit and work toward the air filtration units.

L. Operations shall be continuous so that once an area is started it shall be worked on to the first wet wipe. The wet material from each section shall be packed and sealed into labeled 6-mil polyethylene bags and double bagged with visible labels prior to starting the next section. Water-soaked fallen material shall be picked up while wet to prevent water loss due to evaporation.

M. Maintain good housekeeping so as not to accumulate loose asbestos.

N. Reach the clean wipe state as quickly as possible.

O. Remove the residues as quickly as possible so as not to walk or track through it, thus grinding it to smaller, more potentially dangerous sizes.

P. Place the asbestos into labeled 6-mil polyethylene bags as quickly as possible so as not to allow asbestos to dry out and become airborne. Bags shall be handed down or chuted down carefully from one worker to another.

Q. Contaminated material containing sharp edged items shall be cut to size while adequately wet, placed in small cardboard boxes or burlap bags and then double bagged, or alternatively double bagged and then placed within 6-mil lined fiber drums, the integrity of which is the Contractor's responsibility.

R. Bags/drums shall be marked with the labels prescribed by 40 CFR Part 61 Section 61.150 of the EPA regulations. The outside of all containers shall be wet cleaned or HEPA vacuumed before leaving the work area.

S. After removal, the underlying material shall be brushed with a stiff, nylon bristle brush. Wire brushes are not permitted; asbestos fiber bundles break into smaller more hazardous fiber sizes when a wire brush is utilized. After the material is brushed, it shall be wet wiped with amended water. Only 100% removal will be accepted.

T. The contractor shall submit product information to the Owner for approval prior to application of encapsulant on the floor or duct surfaces.

END OF SECTION

SECTION 02084

DISPOSAL OF ASBESTOS-CONTAINING WASTE

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

B. Section 01092 Codes and Regulations - Asbestos Abatement describes applicable federal, state and local regulations.

1.2 DESCRIPTION OF THE WORK:

A. This section describes the disposal of Asbestos-Containing Materials. Disposal includes proper packaging of asbestos-containing waste materials.

1.3 SUBMITTALS:

A. Before Start of Work: Submit the following to the Environmental Consultant for review. Do not start work until these submittals are approved by the Environmental Consultant.
   1. Copy of state or local license for waste hauler.
   2. Name and address of landfill where non-friable and friable asbestos-containing waste materials are to be buried. Include contact person and telephone number.
   3. Chain of Custody form and form of waste manifest proposed.
   4. Sample of disposal bag and any added labels to be used.

B. Submit copies of all manifests and disposal site receipts to the Environmental Consultant on a weekly basis.

PART 2 PRODUCTS

2.1 Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled with four labels with text as follows:

A. First Label:

CAUTION: CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

B. Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication Standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

C. Third Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

D. Fourth Label: Provide in accordance with 40 CFR Part 61 Asbestos NESHAP revision; Final Rule dated November 20, 1990.

NORRISTOWN PUBLIC LIBRARY
1001 POWELL STREET
NORRISTOWN, PA 19401

PART 3 EXECUTION

3.1 GENERAL:

A. Comply with the following sections during all phases of this work:
   1. Section 01560 Worker Protection - Asbestos Abatement.
   2. Section 01562 Respiratory Protection.

B. All waste is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.

C. Load out of waste material shall occur at times of least occupancy of the buildings. Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following:
   1. Two 6 mil disposal bags.
   2. Two 6 mil disposal bags and a fiberboard drum.

D. Protect interior of truck or dumpster with 6 mil polyethylene sheeting.

E. Carefully load containerized waste into fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.

F. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.

G. Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.

H. Advise the landfill operator or processor, at least ten days in advance of transport, and the quantity of material to be delivered.

I. At a disposal site unload containerized waste. Sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for re-bagging. Clean and decontaminate entire truck and contents.

J. Retain receipts from landfill or processor for all disposed materials.

K. At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to the Environmental Consultant.

END OF SECTION

APPENDIX A

Pre-Renovation Asbestos Building Survey

July 24, 2024

GRMNP24004

Greenman-Pedersen, Inc
Attn: Frank Summa, P.E.
52 Glenmaura National Boulevard, Suite 302
Scranton, PA 18507

RE: ENVIRONMENTAL BUILDING SURVEY
NORRISTOWN PUBLIC LIBRARY
1001 POWELL STREET
NORRISTOWN, PA 19401

Dear Mr. Summa:

Pennoni is providing this report to **Greenman-Pedersen, Inc (GPI)** documenting the results of the environmental building survey conducted at the above referenced location. Activities completed as part of the investigation included a survey and sampling of the Norristown Public Library for asbestos-containing materials (ACM), lead-based paint (LBP), and hazardous materials in preparation for the planned renovation project. At the request of the client, Pennoni returned on July 5, 2024 to conduct polychlorinated biphenyls (PCBs) caulk sampling. The building consists of two-stories and an estimated 75,000 of interior square footage.

PRE-CONSTRUCTION ASBESTOS SURVEY
Pennoni performed a pre-construction asbestos survey of the Norristown Public Library between June 3 and 12, 2024, inconsecutively, to identify accessible ACM that may be disturbed by the planned renovation project. The survey was conducted by a team of Pennoni's United States Environmental Protection Agency (USEPA) trained Asbestos Building Inspectors (see Appendix A – Inspector Credentials) and trained industrial hygienists.

During the inspection, 140 samples of the following 49 identified suspect ACM systems were collected (see Appendix B – Field Inspection Forms and Appendix C – Site Photographs). The following suspect and assumed ACM, listed here by Homogeneous Identification Number (HID), was identified during the survey:

1. Tan Spray-Applied Fireproofing (NAD)
2. Generator Thermal Insulation (NAD)
3. Expansion Caulk (NAD)
4. Endcap Mastic (NAD)
5. Dark Brown Covebase Mastic (NAD)
6. Air Handler Caulk (**POS**)
7. Duct Seam Caulk (**POS**)
8. Off-White Spray-Applied Fireproofing (NAD)
9. Brick and Mortar (NAD) & Mastic (NAD)
10. 2'x4' Dot Fissure Ceiling Tile (NAD)
11. Joint Compound (NAD)
12. Drywall (NAD)
13. Fire Doors (**ASSUM**)
14. 12"x12" Tan and Gray Marble Flor Tile (**POS**) and Mastic (**POS**)
15. 12"x12" White and Gray Marble Floor Tile (NAD) and Mastic (**POS**)
16. 12"x12" Gray and Brown Marble Floor Tile (NAD) and Mastic (**POS**)
17. Carpet Adhesive (NAD)
18. Ceramic Floor Wetbed (NAD)
19. Ceramic Wall Adhesive (NAD)
20. 2'x4' Smooth Dot Ceiling Tile, Gray Back (NAD)
21. Interior Wall Caulk (NAD)
22. Wall Board Adhesive (**ASSUM**)
23. Black Cement Window Sills (**POS**), Two Sizes
24. 12"x12" Tan Floor Tile (NAD) and Mastic (NAD)
25. 12"x12" Maroon Floor Tile (NAD) and Mastic (NAD)
26. Gray Floor Leveler (NAD)
27. 12"x12" Blue Floor Tile (NAD) and Mastic (NAD)
28. Mirror Adhesive (**ASSUM**)
29. Pink Sink Undercoating (**POS**)
30. Ceiling Plaster (NAD) and Skim Coat (NAD)
31. 1st Floor, Tan Spray-Applied Fireproofing (NAD)
32. Interior Gray Coating on Perimeter Walls (NAD)
33. White Interior Window Caulk (NAD)
34. Black Interior Window/Edge Caulk (NAD)
35. Tan Covebase Mastic (NAD)
36. 12"x12" Tan Flake with Brown Floor Tile (NAD) and Mastic (**POS**)
37. 2'x2' Ceiling Tile (NAD)

38. Brick Floor Expansion Caulk (NAD) and Backing (NAD)
39. Capstone Metal Cap Caulk (NAD)
40. Exterior Brick Expansion Caulk (NAD)
41. Roof Field (**ASSUM**)
42. Roof Flashing (**ASSUM**)
43. Roof Seam Tar (**ASSUM**)
44. Pitch Pocket (**ASSUM**)
45. Terracotta (NAD) and Mortar (NAD)
46. Concrete Wall Exterior Expansion Caulk (**POS**)
47. Exterior Brick (NAD) and Mortar (NAD)
48. Glue Dots (NAD) Fiberglass Panels
49. Exterior Plaster Ceiling Expansion Caulk (NAD)

*(NAD) – No Asbestos Detected; (**POS**) – Positive for Asbestos Content; (**ASSUM**) – Not Sampled/Assumed ACM*

The samples were analyzed for asbestos utilizing Polarized Light Microscopy (PLM) via EPA Method 600/R-93/116.

Analytical results indicate 10 of the sampled material systems were identified as asbestos. Seven materials were not sampled and are assumed to contain asbestos. Our findings are summarized in the table below with the full analytical certificates included in Appendix D.

Table 1 – Identified and Assumed Asbestos-Containing Materials
Norristown Public Library
1001 Powell Street
Norristown, PA 19401

Homogenous No. and Material	Location	Approx. Quantity	Type	Percentage	Condition
6. Air Handler Caulk	2nd Floor, Mechanical Room 222	500 SF	Chrysotile	5%	Good
	Total	**500 SF**			
7. Duct Seam Caulk	2nd Floor, Mechanical Room 222	1,000 SF	Chrysotile	3%	Good
	Total	**1,000 SF**			
13. Fire Doors	Throughout	60 EA	-	Presumed ACM	Good
	Total	**60 EA**			
14. 12”x12” Tan and Gray Marble Floor Tile and Mastic	2nd Floor, Hallway 227	800 SF	Chrysotile	Floor Tile – 5% Mastic – 5%	Good
	2nd Floor, Storage 226 #1	345 SF			Good
	2nd Floor, Storage 225	128 SF			Good
	2nd Floor, Closed Stacks 215	4,500 SF			Good
	Stair #3	180 SF			Good
	2nd Floor, Storage 208	60 SF			Good
	Stair #2 (storytelling storage)	144 SF			Good
	Stair #2 Exit	150 SF			Good
	1st Floor, Janitor’s Closet 111	75 SF			Good
	Stair #4	300 SF			Good
	1st Floor, Community Room	2,400 SF			Good
	Total	**8,362 SF**			
15. Mastic associated with non-ACM 12”x12” White and Gray Marble Floor Tile	2nd Floor, Hallway 227	50 SF	Chrysotile	Mastic - 6% Floor Tile - NAD	Good
	2nd Floor, Storage 225	1 SF			Good
	2nd Floor, Kitchen, Room 210-216	10 SF			Good
	1st Floor, Employee Lounge	40 SF			Good
	1st Floor, Computer Room 128/122	480 SF			Good
	Total	**581 SF**			

Table 1 – Identified and Assumed Asbestos-Containing Materials Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
16. Mastic associated with non-ACM 12”x12” Gray and Brown Marble Floor Tile	2nd Floor, Hallway 227	190 SF	Chrysotile	Mastic - 2% Floor Tile - NAD	Good
	Total	**190 SF**			
22. Wallboard Adhesive	2nd Floor, Offices 204, 207 and 209	200 SF	-	Presumed ACM	Good
	Total	**200 SF**			
23. Black Cement Window Sill, Two Sizes	2nd Floor, Children’s Stall 203	65 SF	Chrysotile	15%	Good
	2nd Floor, Storytelling	40 SF			Good
	Stair #2 (storytelling storage)	6 SF			Good
	2nd Floor, Work Room 210/Storage 213	9 SF			Good
	2nd Floor, Conference Room 214	6 SF			Good
	2nd Floor, Hallway	40 SF			Good
	1st Floor, Main Library and Office	400 SF			Good
	1st Floor, Employee Lounge	35 SF			Good
	1st Floor, Hall 114	5 SF			Good
	1st Floor, ILL Room 125	6 SF			Good
	1st Floor, Technical Processing 119 and Office 118	30 SF			Good
	1st Floor, Storage 124	4 SF			Good
	1st Floor, Extension Room 123	12 SF			Good
	Total	**658 SF**			
28. Mirror Adhesive	2nd Floor, Men’s Room 205 and Women’s Room 208	4 SF	-	Presumed ACM	Good
	1st Floor, Men’s Room 115and Women’s Room 116	24 SF			Good
	Total	**28 SF**			
29. Pink Sink Undercoating	1st Floor, Employee Lounge	6 SF	Chrysotile	3%	Good
	1st Floor, Community Room Kitchen	6 SF			Good
	Total	**12 SF**			
36. Mastic associated with 12”x12” Tan Flake Floor Tile	Elevator (lobby, back hall, main library)	50 SF	Chrysotile	Mastic – 2% Floor Tile - NAD	Good
	Total	**50 SF**			
41. Roof Field	Lower Roof, L-Shape	12,000 SF	-	Presumed ACM	Good
	Lower Roof, Rectangle-Shape	8,100 SF			Good
	Upper Roof	30,000 SF			Good
	Total	**50,100 SF**			
42. Roof Flashing	Lower Roof, L-Shape	1,000 SF	-	Presumed ACM	Good
	Lower Roof, Rectangle-Shape	700 SF			Good
	Upper Roof	5,000 SF			Good
	Total	**6,700 SF**			

Table 1 – Identified and Assumed Asbestos-Containing Materials Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
43. Roof Seam Tar	Lower Roof, L-Shape	100 SF	-	Presumed ACM	Good
	Upper Roof	300 SF			Good
	Total	**400 SF**			
44. Pitch Pocket	Upper Roof	50 SF	-	Presumed ACM	Good
	Total	**50 SF**			
46. Exterior Concrete Wall Expansion Caulk	Exterior of Building	50 SF	Chrysotile	2%	Good
	Total	**50 SF**			

ASSUMED ASBESTOS-CONTAINING MATERIALS
Seven materials (HIDs 13, 22, 28, 41, 42, 43, and 44) were not sampled and are categorized as assumed asbestos-containing materials. These materials are assumed to contain asbestos unless the materials can be sampled and definitively analyzed.

LEAD-BASED PAINT SCREENING
A lead-based paint screening was conducted under the direction of one of Pennoni's Commonwealth of Pennsylvania licensed Lead Inspector/Risk Assessors (see Appendix A – Inspector Credentials).

The screening were generally performed following the United States Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing – July 2012. Sampling was conducted on the interior and exterior surfaces but should not be considered a full LBP inspection.

The testing was performed on-site utilizing a SciAps X-550 portable x-ray fluorescence lead-in-paint analyzer (XRF). Homogeneous painted surfaces were scanned with the handheld XRF which yielded readings of lead content of tested paint.

The XRF results are based on the Performance Characteristic Sheets (PCS). Please refer to Appendix E for the instrument performance characteristic sheet.

HUD and USEPA define lead-based paint as a painted surface containing greater than or equal to one milligram of lead per square centimeter (1.0 mg/cm^2) as measured by a hand-held XRF lead-in-paint analyzer or greater than or equal to 0.5% by weight as measured by laboratory analysis of collected paint chip samples (see components designated as red in Appendix F – Lead-Based Paint Data).

Occupational Safety & Health Administration (OSHA) regulation 24 CFR 1926.26 OSHA Lead in Construction Standard has established a threshold of any level of lead above the detection level is defined as lead containing (i.e., greater than 0.0 ug/cm^2). XRF readings between 0.1 ug/cm^2 and 0.9 ug/cm^2 have been identified as OSHA positive (see components designated as blue in Appendix F – Lead-Based Paint Data).

Results indicate that none of the tested components were identified as lead-based paint. Lead-containing paint (LCP) was identified on some of the tested components (see Appendix F – Lead-Based Paint Data).

The identified LCP was found to be in an intact condition. Paint of similar components should also be considered LCP if found in other parts of the building or were inaccessible. Removal of existing LCP is not required prior to renovation/demolition; however, contractors performing renovations/demolition should be notified that LCP is present. Contractors should be instructed to follow applicable OSHA regulations regarding working with LCP.

HAZARDOUS EQUIPMENT INVENTORY
Pennoni conducted a hazardous material survey of the building between June 3 and 5, 2024 to identify and quantify the following hazardous/regulated materials (see Appendix G – Hazardous Materials Inventory).

Fluorescent Light Tubes and Ballasts
In a fluorescent light tube, an electric current stimulates mercury atoms which then release ultraviolet photons. These photons, in turn, stimulate a phosphor powder causing it to "fluoresce" or emit visible light. The small amount of mercury present in the tubes, approximately four (4) grams, may pose an environmental hazard because mercury is a potent nerve toxin that can damage the brain, liver, and kidneys, and cause developmental disorders in children. Approximately 12 linear feet (LF) of two-foot fluorescent light tubes, 13,892 LF of four-foot fluorescent light tubes, 56 each U-shape fluorescent light tubes and 46 each compact fluorescent light tubes were observed throughout our inspection.

Light ballasts provide a positive resistance that limits the flow of electric current to an appropriate level in a negative resistance device, such as a fluorescent light. Ballasts may contain polychlorinated biphenyls (PCBs), a class of organic compounds that have a wide range of congeners which may cause adverse health effects such as chloracne, rashes, or liver damage. Prior to 1980 in the United States, PCB-based oils were used as a dielectric in capacitors in many types of ballasts associated with fluorescent light tubes. Approximately 1,196 each PCB-containing ballasts were observed throughout our inspection.

These materials should be disposed of in accordance with the USEPA's Resource Conservation and Recovery Act (RCRA).

Mercury Thermostats
Twenty-five exterior mercury-containing lights were observed throughout our inspection.

Emergency Light Batteries
Emergency lights are commonly equipped with lead-calcium batteries that can last up to ten (10) years. Lead-calcium batteries are resistant to corrosion, overcharging, off-gassing, water usage and self-discharge. These batteries also have a larger electrolyte reserve area above the plates, higher cold cranking ampere ratings, and little maintenance is required. Lead-calcium batteries pose an environmental risk because lead is a heavy metal that can be toxic in small amounts. Twenty emergency signs and emergency lights containing batteries were observed throughout our inspection.

Smoke Detectors
Typical smoke detectors in a commercial environment contain a small amount of radioactive material to detect the presence of smoke or heat sources. These "ion chamber smoke detectors" are the most popular because they are inexpensive and are sensitive to a wider range of fire conditions than other types. Generally, the radioactive source in these smoke detectors is a very small quantity (<35 kBq) of Americium-241 (Am-241). Seventy-six smoke detectors were observed throughout our inspection.

Ozone-Depleting Substances
The U.S. Clean Air Act of 1963 prohibits the venting of any refrigerant (i.e., Freon®) into the atmosphere during installation, service, or retirement of equipment. Therefore, all refrigerants must be recovered and recycled (for reuse in the same system), reclaimed (reprocessed to the same purity levels as new refrigerant) or destroyed. Pennoni conducted an inventory of ozone-depleting substances throughout the site. One miniature refrigerator, two miniature freezers and one drink machine were observed throughout our inspection.

Transformers/Capacitors/Hydraulic Equipment
Transformers and capacitors are typically manufactured as either dry or oil-filled types. A dry transformer and capacitor are not considered as much a hazard when compared to an oil-filled transformer or capacitor, which is filled with a dielectric fluid that may contain PCBs. PCBs, a class of organic compounds that have a wide range of congeners, may cause adverse health effects such as chloracne, rashes and liver damage. Dielectric fluid containing PCBs was used in transformers between the years of 1929 and 1977 because of their useful quality as a fire retardant. The majority of these PCB containing transformers were installed in apartments, residential and commercial buildings, industrial facilities, campuses and shopping centers constructed before 1978. The USEPA regulates the use, storage and disposal of PCB containing transformers. One dry transformer was observed throughout our inspection.

Miscellaneous
The following miscellaneous hazardous materials were observed:

- Lead acid batteries – 4 each
- Diesel generator – 1 each
- Elevator gears
- Compressor in garage – 1 each
- Printers - throughout

PCB SAMPLING

Pennoni collected a total of 11 samples of caulking and glazing materials were collected from the interior and exterior of the building. Samples were collected of the following:

3. Expansion Caulk
6. Air Handler Caulk
7. Duct Seam Caulk
21. Interior Wall Caulk
33. White Interior Window Caulk
34. Black Interior Window/Edge Caulk
38. Brick Floor Expansion Caulk
39. Capstone Metal Cap Caulk
40. Exterior Brick Expansion Caulk
46. Concrete Wall Exterior Expansion Caulk
49. Exterior Plaster Ceiling Expansion Caulk

Samples were properly labeled, packaged and submitted to EMSL for PCB analysis via EPA method SW-846/8082A. Analysis results were compared against the USEPA clean-up requirements for PCB content in building materials of 50 parts per million (ppm).

The analytical results indicated that all but two of the samples collected were non-detect for PCBs. However, two samples did contain detectable PCB concentrations less than 50 ppm. Sample PCB-3-1, expansion caulk contained PCBs at 2.7 ppm, and sample PCB-7-1, duct seam caulk contained PCBs at 5.8 ppm (see Appendix H – PCB Analytical Certificates).

Caulk containing PCBs at a concentration of 50 ppm or less qualifies as an excluded PCB product, and is not regulated by EPA. Best practice for managing these materials in place consists of adequate maintenance of materials to prevent deterioration.

LIMITATIONS

The goal of the environmental building of the Norristown Public Library was to identify readily accessible ACM, LBP or hazardous materials that may be impacted by the planned renovation project. Pennoni should be contacted immediately if renovation or demolition activities uncover materials that are not identified in this report.

This report is provided to assist with preparation for abatement for the planned renovation project. It is not intended to be used for contractor bidding. A Project Design Survey should be completed for the preparation of abatement plans and specifications.

If you have any questions concerning this report or require additional information, please feel free to contact us at 856-547-0505.

Sincerely,
PENNONI ASSOCIATES INC.

Richard G. Egner
Project Manager

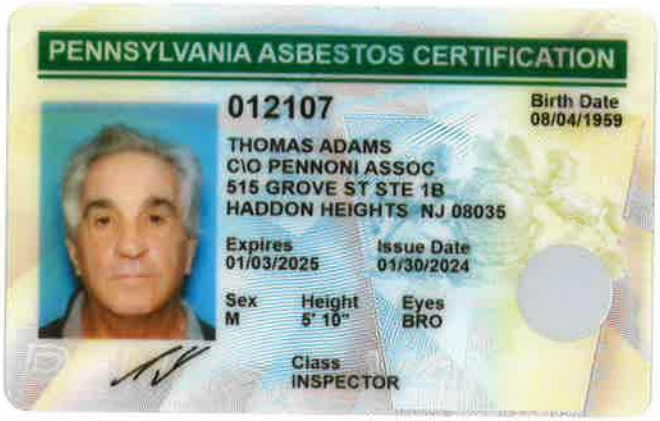
Thomas Adams, CIEC
EHS Division Manager

tp

Attachments
Appendix A – Inspector Credentials
Appendix B – Field Inspection Forms
Appendix C – Site Photographs
Appendix D – Asbestos Laboratory Analytical Certificates

APPENDIX A

Inspector Credentials


PENNSYLVANIA ASBESTOS CERTIFICATION
012107
Birth Date
08/04/1959
THOMAS ADAMS
C\O PENNONI ASSOC
515 GROVE ST STE 1B
HADDON HEIGHTS NJ 08035
Expires
01/03/2025
Issue Date
01/30/2024
Sex
M
Height
5' 10"
Eyes
BRO
Class
INSPECTOR

United States Environmental Protection Agency

This is to certify that



Thomas Adams

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires December 28, 2026

LBP-R-I182289-3

Certification #

July 14, 2023

Issued On

Adrienne Priselac, Manager, Toxics Office

Land Division

PENNSYLVANIA ASBESTOS CERTIFICATION



053803

Birth Date
09/23/1988

RICHARD G EGNER
14 S FRANKLIN AVENUE
BERLIN NJ 08009

Expires
01/04/2025

Issue Date
02/06/2024

Sex
M

Height
6' 02"

Eyes
BRO

Class
INSPECTOR

Certificate of Completion

awarded to

Richard Egner

for successfully completing the prescribed course of study in

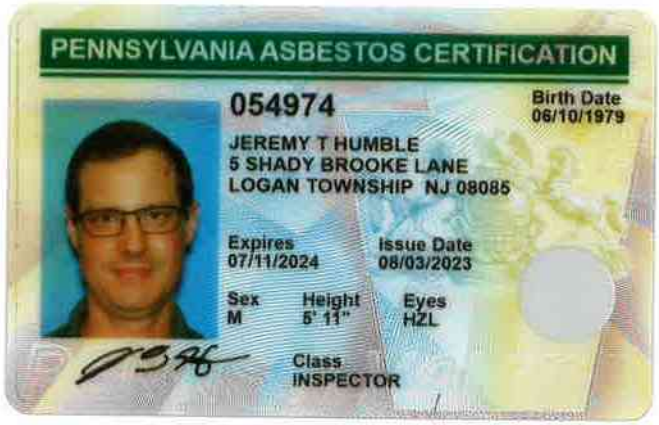
New Jersey Lead Inspector/Risk Assessor, Housing and Public Buildings

in accordance with EPA and HUD Guidelines

presented by

ACCESS TRAINING SERVICES, INC.
7921 River Road, Pennsauken, New Jersey 08110
(856) 665-3449

11/14-18/22	**11/18/22**	**11/18/24**
Course Date	*Exam Date*	*Expiration Date*
N/A	**ACC-1122-17-007**	*Mark K. Schläger*
Social Security Number	*Certificate Number*	*Training Director*


PENNSYLVANIA ASBESTOS CERTIFICATION
054974
Birth Date
06/10/1979
JEREMY T HUMBLE
5 SHADY BROOKE LANE
LOGAN TOWNSHIP NJ 08085
Expires
07/11/2024
Issue Date
08/03/2023
Sex
M
Height
5' 11"
Eyes
HZL
Class
INSPECTOR


PENNSYLVANIA LEAD CERTIFICATION
059688
Birth Date
06/10/1979
JEREMY T HUMBLE
5 SHADY BROOKE LANE
LOGAN TOWNSHIP NJ 08085
Expires
11/10/2024
Issue Date
10/23/2023
Sex
M
Height
5' 11"
Eyes
HZL
Class
INSPECTOR


PENNSYLVANIA LEAD CERTIFICATION
059688
Birth Date
06/10/1979
JEREMY T HUMBLE
5 SHADY BROOKE LANE
LOGAN TOWNSHIP NJ 08085
Expires
11/10/2024
Issue Date
10/23/2023
Sex
M
Height
5' 11"
Eyes
HZL
Class
RISK ASSESSOR

APPENDIX B

Field Inspection Forms

Pennoni

HOMOGENOUS MATERIALS LIST

Project Number: GRMNP 24004 Page 1 of

Site: Inspector: Rick Eg-

Building: Norristown Public Library Reviewed By: Tom Adams / Jeremy Hurtle

Floor: Date: 6/3/24 / 6/4/24

HID #	Material	Sample Number(s)	Photo
01	TAN Spray on Fireproofing	A,B,C,D,E,F,G	✓
02	Generator Thermal Insulation	A,B,C	✓
03	Expansion Caulk	A,B	✓
04	End Cap Mastic	A, B	✓
05	Mastic ALW COVEBASE (DARK Brown)	A, B, C	✓
06	Air Handler Caulk	A,B	✓
07	Duct Seam Caulk	A,B	✓
08	OFF White Fireproofing	A-E, F, G, H, I	✓
09/M	Brick / Mortar	A, MA, B, MA	✓
10	2X4 DOT Fissure Ceiling Tile	A, B	✓
11	Joint Compound	A B, C	✓
12	Drywall	AB	✓
13	Fire Doors	PACM	✓
14	12X12 TAN & Gray marble	A, MA, B MB	✓
15	12X12 White & Gray marble	A MA, B MB	✓
16	12x12 Gray & Brown marble	A MA B MB	✓
17	Carpet Adhesive	A B, C	✓
18	Wetbed ALW Ceramic floor	A B	✓
19	Well Adhesive ALW Ceramic	A B	✓
20	2X4 Smooth DOT CT (Gray Black)	A B	✓

Pennoni

HOMOGENOUS MATERIALS LIST

Project Number: GRMNP24004 Page 2 of

Site: Inspector: Rick Eg

Building: Normstown Public Library Reviewed By: Jeremy Thumb

Floor: Date: 6/4/24

HID #	Material	Sample Number(s)	Photo
21	Interior Window CAULK	A, B	✓
22	Wall Board Adhesive	PACM	✓
23	BLACK CEMENT WINDOW SILL	A, B	✓
24/m	12X12 TAN Floor Tile & Mastic	A, mA, B, mB	✓
25/m	12X12 Maroon FT /m	A mA, B, mB	✓
26	Gray floor Leveler	A, B, C	✓
27	12x12 Blue FT/m	AmABmB	✓
28	Mirror Adhesive	PACM	✓
29	Pink Sink Undercoating	A, B	✓
30	Ceiling Plaster	A-E	✓
31	SPRAY ON FIRE PROOFING 1ST FLR	A-E	✓
32	~~EXT~~ INT BRICK GRAY COATING ON PERIMETER WALLS	A, B,	✓
33	INTERIOR window CAULK WHITE	A, B	✓
34	" window/ledge II BLACK	A, B	✓
35	COVE MOLD ADH	A, B	✓
36	12X12 TAN Flake FT/ Brown	AmA BmB	✓
37	~~2x4~~ 2x2 Ceiling Tile	PB	✓
38	Brick FLOOR - Expansion Caulk	AB	✓
39	Capstone Mech Curb Caulk	AB	✓
40	Ext. Brick Expansion Caulk	AB	✓
41	Roof Field - Lower	PACM	✓

Pennoni

HOMOGENOUS MATERIALS LIST

Project Number: GRMNP240021 Page 3 of

Site: Inspector: RG

Building: Normandy Public Library Reviewed By: T Adams

Floor: Date: 6/5/24

HID #	Material	Sample Number(s)	Photo
42	Roof flashing	PACM	✓
43	Tar Pitch Pocket	PACM	✓
44	Pitch Pocket	PACM	✓
45	Terra Cotta & mortar	AB	✓
46	Concrete wall - Expansion Exterior Caulk	AB	✓
47	Exterior Brick / mortar	AB	✓
48	Glue Dots	AB	✓
49	Expansion Caulk A/W Plaster Ceiling	AB	✓

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Nomstown Public Library

Floor: 1nd

Inspector: Rick Egner

Reviewed By: Tom Adams

Date: 6/3/24

Page 1 **of**

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
01	TAN Spray on Fireproofing	2,600SF	Mech RM 224 (2nd floor)	D	A-G	F	1
02	Generator Thermal Insulation	15SF	" "	D	A, B, C	F	1
03	Expansion Caulk (Wall/Door)	50SF	" "	G	A D	NF2	1
04	End Cap Mastic	25SF	" "	G	A B	NF2	1
05	Mastic AIW CB (Dark Brown)	20SF	" "	G	A B	NF2	1
03	Expansion Caulk (Wall/Door)	50SF	Mech RM 222	G	H	NF2	1
04	End Cap Mastic	25SF	" "	G	H	NF2	1
05	Mastic AIW CB (Dark Brown)	20SF	" "	G	H	NF2	1
07	Duct Seam Caulk	500SF	" "	G	A B	NF2	1
06	Air Handler Caulk	100SF	" "	G	A B	NF2	1
08	OFF White Fire proofing	3500SF	" "	D	A, B, C, D, G	F	1
09	Brick & mortar	300SF	HALL 227/HALL 227	G	A, MA, B, MB	F	1
01	TAN Spray on FP	300SF	" "	D	F, G	F	1
10	2x4 DF CT	1530SF	" "	G	A B	F	1
05	Mastic AIW CB (Dark Brown)	180SF	" "	G	H	NF2	1
11	Joint Compound	4700SF	" "	G	A, B	F	1
12	DRYWALL	4700SF	" "	G	A, B	F	1
08	OFF White Spray on FP	3000SF	" "	D	F, G	F	1
12/14	12x12 TAN & Grey Marble FT/M	800SF	" "	G	A MA B MB	NF1	1
15	12x12 White Grey Marble FT/M	50SF	HALL 227	G		NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Morristown Public Library

Floor: 2nd

Inspector: Rick Eg

Reviewed By: Tom Adams

Date: 6/3/24

Page 2 **of**

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
16	12x12 Gray & Brown Marble FT/M	190SF	HALL 227	G		NF1	1
01	TAN Spray on FP	800SF	Storage 226 #1	G	H	F	1
11	Joint Compound	760SF	" "	G	H	F	1
12	Drywall	760SF	" "	G	H	F	1
10	2X4 DF CT	345SF	" "	G	H	F	1
14	12X12 TAN & Gray marble FT/M	345SF	" "	G	H	NF1	1
05	Mastic B/W CB (DARK Brown)	30SF	" "	G	H	NF2	1
11/12	Joint Compound / Drywall	480SF	Storage 225	G	H	F	1
14	TAN & Gray 12X12 FT/M	128SF	" "	G	H	NF1	1
10	2X4 DF CT	128SF	" "	G	H	F	1
08	Off White Spray on FP	300SF	" "	G	H	F	1
15	12x12 White Gray Marble FT/M	1SF	" "	G	A MA BMB	NF1	1
05	Mastic B/W CB (Dark Brown)	10SF	" "	G	H	NF2	1
01	TAN Spray on FP	300SF	Elevator Room	G	H	F	1
11/12	JC / Drywall	700SF	" "	G	H	F	1
05	Mastic B/W CB (DARK Brown)	10SF	" "	G	H	NF2	1
01	TAN Spray on FP	~~300SF~~ 500SF	Roof ACCESS RM 226 #2	G	H	F	1
11/12	JC / Drywall	1,110SF	" "	G	H	F	1
~~01~~	~~TAN Spray on FP~~	~~300SF~~	~~Storage RM # 226 #2~~	~~G~~	~~H~~	~~F~~	~~1~~
~~11/12~~	~~JC / Drywall~~	~~400SF~~	"	~~G~~	~~H~~	~~F~~	~~1~~

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Norristown Public Library

Floor: 2.

Inspector: Rick Eg

Reviewed By: Tom Adams

Date: 6/3/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	JC/Drywall	3300SF	Closed Stacks (215)	G		F	1
14	12x12 Tan & Gray marble FT/M	~~4,395SF~~ 4500	" "	G		NF1	1
05	Mastic A/W CB	300SF	" "	G		NF2	1
10	2x4 DF CT 450 SF	~~4,395SF~~	" "	G		F	1
08	OFF White Spray on FP	7,000 SF	" "	G		F	1
11/12	~~2x4~~ JC/Drywall	5,000SF	Stair #3	G		F	1
14	12x12 Tan & Gray FT/M	180SF	" "	G		NF1	1
05	Mastic A/W CB	180SF	" "	G		NF2	1
10	2x4 DF CT	460SF	" "	G		F	1
01	Tan Spray on FP	600SF	" "	G		F	1
17	Carpet Adhesive	430SF	HALL 221	G	AB	NF1	1
11/12	JC/Drywall	1820SF	" "	G		F	1
05	Mastic A/W CB	40 SF	" "	G		F	1
10	2x4 DF CT	430SF	" "	G		NF2	1
08	OFF White Spray on FP	800SF	" "	G		F	1
11/12	JC/Drywall	1500SF	Conference Rm 214	G		F	1
05	Mastic A/W CB	155F	" "			NF2	1
10	2x4 DF CT	630SF	" "			F	1
08	OFF White Spray on FP	~~1,000SF~~	" "			F	1
17	Carpet Adhesive	1030SF	" "			NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

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SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004
Site:
Building: Norristown Public Library
Floor: 2

Inspector: Rick Egner
Reviewed By: Tom Adams
Date: 6/3/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	JC / Drywall	2,000SF	RM 210, 210 Asst. Store 216 Secretarial Area	G	HF	F	1
08	Off white Spray on FP	300SF	" "	G		F	1
18	2x4 DF CT	1122SF	" "	G		F	1
05	Mastic A/W CB	40 SF	" "	G		NF2	1
17	Carpet Adhesive	1122SF	" "	G		NF1	1
18	wetset A/W Ceramic floor	30SF	Bathroom. For RM 210 216	G	HF	F	1
19	Wall Adhesive A/W Ceramic	180SF	" "	G	H	NF2	1
10	2x4 DF CT	30SF	" "	G	H	F	1
15	12x12 White & Gray marble FT/M	10SF	Kitchen - RM 210-216	G	H	NF1	1
11/12	JC / Drywall	80SF	" "			F	1
05	Mastic A/W CB	3SF	" "			NF2	1
10	2x4 DF CT	10SF	" "			F	1
11/12	JC / Drywall	640SF	Mens 219 / Womens 220	G	H	F	1
18	Wetset A/W Ceramic floor	160SF	" "	G	AB	F	1
19	Wall Adhesive Ceramic Wall	640SF	" "	G	AB	NF2	1
08	Off White Spray on FP	400SF	" "	G	H	F	1
20	2x4 Small DOT CT (Gray Backing)	160SF	" "	G	AB	F	1
11/12	JC / Drywall	520SF	Storage 212 (office)	G	H	F	1
08	Off white Spray on FP	300SF	" "	G	H	F	1
17	Carpet Adhesive	165SF		G	H	NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004
Site:
Building: Norristown Public Library
Floor: 2

Inspector: R. Eg
Reviewed By: T. Adams / Saranya Thumbe
Date: 6/3/24 / 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
05	mastic A/W CB	10SF	Storage 212 (office)	G	H	NF2	1
01	TAN Spray on FP	18,000SF	Children Stack 203	G	H	F	1
11/12	JC/Drywall	5,000SF	" "	G	H	F	1
05	mastic A/W CB	125SF	" "	G	H	NF2	1
17	Carpet Adhesive	11,250SF	" "	G	H	NF1	1
09/n	Brick & mortar	105SF	" "	G	H	F	1
01	TAN Spray on FP	600SF	Offices 204 & 207	G	H	F	1
11/12	JC / Drywall	840SF	" "			F	1
05	mastic A/W CB	20SF	" "			NF2	1
17	Carpet Adhesive	380SF	" "			NF1	1
10	2X4 DF CT	380LF	" "			F	1
14	RX12 TAN Gray FT/mastic	60SF	Storage 208	G	H	NF1	1
05	Mastic A/W CB	5SF	" "			NF2	1
11/12	JC / Drywall	440SF	" "			~~NF2~~	1
01	TAN Spray on FP	700SF	" "			F	1
10	2X4 DF CT	60LF	" "			F	1
10	2X4 DF CT	11,250LF	Childrens Stack 203	G	H	F	1
10	2X4 DF CT	164LF	Office 204			~~NF~~ F	1
17	Carpet Adhesive	164SF	" "			NF1	1
01	TAN Spray on FP	400SF	" "			F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Norristown Public Library

Floor: 2.

Inspector: Ryan Ely

Reviewed By: Jeremy Hunsle

Date:

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
22	Wall Board Adhesive	2005F	Office 204/207/209	G	PACM	NF2	1
11/12	JC/ Drywall	5105F	Office 209	G	(E)	F	1
05	~~Cart~~ Mastic ALW CB	105F	" "	G	(E)	NF2	1
21	Interior Window Caulk	60LF	Childrens Story 203	G	A,B	NF2	1
23	Black Cement Window sill	65SF	" "	G	NA	NF2	1
01	TAN Spray on FP	400SF	Office 211	G	(H)	F	1
11/12	JC/ Drywall	500SF	" "			F	1
10	2x4 DF CT	1164F	" "			F	1
17	Carpet Adhesive	1164SF	" "			NF2	1
05	Mastic ALW CB	200F	" "			NF2	1
24/m	12x12 TAN FT/M	461 SF	Story Telling 202	G	A, mix B, MB	NF1	1
25/m	12x12 Maroon FT/M	461 SF	" "		A MA B MB	NF1	1
26	Gray floor leveler	972SF	" "		A, B	F	1
014	TAN Spray on FP	1300SF	" "		(H)	F	1
10	2x4 DF CT	772SF	" "		(H)	F	1
11/12	JC/ Drywall	1300SF	" "		(H)	F	1
05	Mastic ALW CB	25SF	" "		(N)	NF2	1
27	12x12 Blue FT/M	50SF	" "		A Bip 3 MB	NF1	1
01	TAN Spray on FP	400SF	Stair #2 (Storage) Story Telling	G	(H)	F	1
10	2x4 DF CT	144 SF	" "		(H)	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Norristown Public Library

Floor: 2

Inspector: Rick Eg

Reviewed By: Jeremy Humble

Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
23	Block Cement WS	40 SF	Story Telling	G	D	NF2	1
11/12	JC/ Drywall	400SF	Stair # 2 (Storage) Story Telling	|	B	F	1
14	12X12 TAN & Gray Marble FT/M	144SF	" "	|	A	NF1	1
05	Mastic AIW CB	10SF	" "	|	B	NF2	1
23	Block Cement WS	6 SF	" "	G	H	NF2	1
18	Wetset AIW Ceramic floor	480SF	Mens 205 / Womens 208	|	H	F1	1
20	2X4 Smooth DoT CT	480SF	" "	↓	H	F	1
28	Mirror Adhesive	4SF	" "	G	PACM	NF2	1
19	Wall Adhesive A/W Ceramic Wall	1200SF	" "	G	H	NF2	1
01	TAN SPRAY on FP	800SF	" "	G	H	F	1
14	12X12 TAN & Gray marble FT/M 15%	~~100SF~~	Stair #2 Exit	G	H	NF1	1
11/12	JC/ Drywall	1500SF	" "	|	|	F	1
01	TAN SPRAY on FP	800SF	" "	|	|	F	1
05	Mastic AIW CB	10SF	" "	|	|	NF2	1
10	2X4 DF CT 200SF	~~400SF~~	" "	|	|	F	1
01	TAN SPRAY on FP	2000SF	Work Room 210/ Storage 213	G	H	F	1
11/12	JC/ DW 200SF	~~800SF~~	" "	|	|	F	1
10	2X4 DF CT	1200SF	" "	|	|	F	1
17	Carpet Adhesive	1200SF	" "	|	|	NF1	1
05	Mastic AIW CB	~~500SF~~	" "	|	|	NF2	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Poanstown Public Library

Floor: 2nd / 1st

Inspector: Rick Eg

Reviewed By: Jeremy Hamsher

Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
23	Black Cement Windowsill	9SF	Work Room 210/ Storage 213	G	(B)	NF2	1
23	" "	6 SF	Conference Rm 214	G	(E)	NF2	1
11/12	JC / Drywall	1,240SF	1st FLR Employee Lounge	G	(H)	F	1
15	12x12 White/Gray marble FTlm	~~1,240SF~~ 40SF	"	G	(H)	NF1	1
05	Mastic A/W CB	35 SF	" "	G	(A) C	NF2	1
10	2x4 DF CT	1160SF	" "	G	(H)	F	1
17	Carpet Adhesive	1,120SF	" "	G	(A) C	NF1	3
23	BLACK CEMENT WINDOW SILL	35SF	" "	G	(H)	NF2	1
29	PINK SINK UNDERCOATING	6SF	" "	G	A, B	NF2	1
26	GRAY FLOOR LEVELER	1,120SF	" UNDER 2 LAYERS CARPET	G	C	NF2	2 & 3
08	OFF WHITE SAF	1,800SF	" "	D/ 10	H, I	F	2
11/12	DW/JC	3500SF	HALL 114	G	(H)	F	1
05	MASTIC A/W CB	88SF	"	G	(H)	NF2	2
10	2x4 DF CT	966SF	"	G	(H)	F	1
17	CARPET ADHESIVE	~~896SF~~ 966SF	"	G	(H)	NF1	3
23	BLACK CEMENT WINDOW SILL	5SF	"	G	(H)	NF2	1
08	OFF-WHITE SAF	2,000SF	"	G	(H)	F	2
26	GRAY FLOOR LEVELER	966SF	"	G	(H)	NF2	3
05	MASTIC A/W CB	25SF	ILL RM 125	G	(H)	NF2	2
08	OFF WHITE SAF	800SF	"	G	(H)	F	2

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: NORRISTOWN PUBLIC LIBRARY

Floor: 1ST

Inspector: RICK EGNER

Reviewed By: JEREMY HUMBLE

Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
10	2x4 DF CT	510SF	ILL RM 125	G	H	F	1
11/12	DW/JC	1,000SF	"	G	H	F	1
17	CARPET ADHESIVE	510SF	" 2 LAYERS CARPET	G	H	NF1	3
23	BLACK CEMENT WINDOW SILL	6SF	"	G	H	NF2	1
26	GRAY FLOOR LEVELER	510SF	"	G	H	NF2	3
05	MASTIC A/W CB	60SF	RMS 119 & 118 TECHNICAL PROCESSING & OFFICE	G	H	NF2	1
08	OFF-WHITE SAF	4,100SF	"	G	H	F	2
10	2x4 DF CT	2,720SF	"	G	H	F	1
11/12	DW/JC	2,350SF	"	G	H	F	1
17	CARPET ADHESIVE	2,720SF	" UNDER 2 LAYERS CARPET	G	H	NF1	3
23	BLACK CEMENT WINDOW SILLS	30SF	"	G	H	NF2	1
05	MASTIC A/W CB	20SF	REFERENCE RM 113	G	H	NF2	1
08	OFF WHITE SAF	400SF	"	G	H	F	2
10	2x4 DF CT	260SF	"	G	H	F	1
11/12	DW/JC	660SF	"	G	H	F	1
17	CARPET ADHESIVE	260SF	" 2 LAYERS CARPET	G	H	NF1	3
05	MASTIC A/W CB	35SF	APT-RM FIRST AID RM 127	G	H	NF2	1
08	OFF-WHITE SAF	300SF	"	G	H	F	2
11/12	DW/JC	500SF	"	G	H, C	F	1
10	2x4 DF CT	160SF	"	G	H	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRNNP 24004
Site:
Building: NORRISTOWN PUBLIC LIBRARY
Floor: 1ST

Inspector: RICK EGNER
Reviewed By: J. HUMBUE
Date: 6/4/24 **Page** 10 **of**

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
17	CARPET ADHESIVE	160SF	ADULT-RM FIRST AID RM 127	G	(H)	NF2	3
08	OFF WHITE SAF	500SF	CADIES RM 116 / MENS RM 115	G	(H)	F	2
11/12	DW/JC	960SF	"	G	(H)	F	1
16	WET BED A/W CERAMIC TILE	288SF	"	G	(H)	NF2	2
19	WALL ADHESIVE A/W CERAMIC TILE	960SF	"	G	(H)	NF2	2
20	2x4 SMOOTH DOT CT	288SF	"	G	(H)	F	1
26	MIRROR ADHESIVE	24SF	~~MENS RM 115~~	G	(H) PACM	NF2	2
05	MASTIC A/W CB	8SF	JANITOR CLOSET 111	G	(H)	NF2	1
08	OFF WHITE SAF	400SF	"	G	(H)	F	2
10	2x4 DF CT	75SF	"	G	(H)	F	1
11/12	DW/JC	400SF	"	G	(H)	F	1
14/M	12x12 TAN & GRAY MARBLE CT & MASTIC	75SF	"	G	(H)	NF1	1
	Plaster Ceiling	3,000SF	Garage 117	G	A-	F	1
01	TAN SAF	2,000SF	" "	G	(H)	F	1
03	Expansion Caulk/Wall	20SF	" "	G	(H)	NF2	1
08	Off white Spray on FP	2000SF	Special Doc 112	G	(H)	F	1
11/12	JC/Drywall	1200SF	" "			F	1
17	Carpet Adhesive	840SF	" "			NF1	1
05	MASTIC D/W CB	30SF	" "			NF2	1
10	2x4 DF CT	840SF	" "			F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Norristown Public Library

Floor: 1st

Inspector: Rick S

Reviewed By: J. Hunsicker

Date: 6/24/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
26	Gray FLR Leveler	840SF	Special Doc 112	G	H	F	1
10	2x4 DF CT	350SF	HALL 120/127 Personal Sect.	"	"	F	1
01	TAN SAF	800SF	" "	"	"	F	1
03	Expansion Couch	20SF	" "	"	"	NF2	1
05	Mastic A/W CB	22SF	" "	"	"	NF2	1
11/12	JC/DW	450SF	" "	"	"	F	1
01	TAN SAF	400SF	Storage 121	G	H	F	1
10	2x4 DF CT	200SF	"	"	"	F	1
05	Mastic A/W CB	15SF	"	"	"	NF2	1
15	12x12 White/Gray FT mirror/mastic	48SF	Computer RM 128/122	G	H	NF1	1
01	TAN SAF	1000SF	"	"	"	F	1
11/12	JC/Drywall 1240SF	~~1240SF~~	"	"	"	F	1
05	Mastic A/W CB	31SF	"	"	"	NF2	1
10	2x4 DF CT	486SF	"	"	"	F	1
17	Carpet Adhesive	130SF	Storage 124	"	"	NF1	1
11/12	JC/DW	486SF	"	"	"	F	1
05	Mastic A/W CB	11SF	"	"	"	NF2	1
01	TAN SAF	600SF	"	"	"	F	1
23	Black Cement W/S	4SF	"	"	"	NF2	1
10	2x4 DF CT	130SF	"	"	"	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004
Site:
Building: Norristown Public Library
Floor: 1st

Inspector: Rick Egner
Reviewed By: Jeremy Humble
Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	JC / DW	1640LF	Extension RM 123	G	(+)	F	1
3/~~09~~	TAN SAF	3000SF	"	"	"	F	1
17	Carpet Adhesive	1680SF	"	"	"	NF1	1
05	Mastic A/W CB	41SF	"	"	"	NF2	1
23	Block Cement W/S	12SF	"	"	"	NF2	1
10	2X4 DF CT	1680SF	"	"	"	F	1
14	12X12 TAN/Gray marble FT/Mastic	300SF	Stair #4	G	(+)	NF1	1
11/12	JC/DW	4000SF	"	"	"	F	1
01	TAN SAF	2000SF	"	"	"	F	1
05	Mastic A/W CB	30SF	"	"	"	NF2	1
10	2X4 DF CT	500SF	"	"	"	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004
Site:
Building: NORRISTOWN PUBLIC LIBRARY
Floor: 1ST

Inspector: T Adams
Reviewed By:
Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
12	DW	1800 SF	MAIN PUBLIC AREA	Good	(H)	F	1
12	JC	1400 SF	1ST FLR	"	(H)	F	1
10	2X4 DOT/FIS	32,000	"	"	(H)	F	1
17	CARPET ADHESIVE	32000	"	"	(H)	NFZ	2
31	SPRAY ON FP 1ST FLR	45,000 SF	"	FAIR	A-G	F	1
32	INT GRAY PER WALL COATING	4100 SF	"	Good	A,B	NFZ	1
33	INT WHITE WIND CAULK	200 SF	"	"	A,B	NFZ	1
34	" BLACK " "	300 SF	"	"	A,B	NFZ	1
35	COVE MOLD ~~MASTIC~~ ADH TAN	800 SF	"	"	A,B	NFZ	2
11	JC	1700 SF	CIRCULATION/COMP	Good	(L)	F	1
12	DW	1700 SF	AREA	"	(L)	F	1
10	2X4 CT FIS/DOT	800 SF		"	(L)	F	1
31	SPRAY ON FP 1ST FLR	1200 SF		FAIR	(L)	F	1
32	INT GRAY WALL COATING	400 SF		Good	(L)	NFZ	1
33	" WHITE WIND CAULK	20 SF		"	(L)	NFZ	1
34	" BLK " "	20 SF		"	(L)	NFZ	1
35	COVE MOLD ADH	30 SF		"	(L)	NFZ	2
17	CARPET MASTIC	800 SF		"	(L)	NFZ	2

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Norristown Public Library

Floor: 1

Inspector: RG

Reviewed By: T. Adams

Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	~~3~~/Drywall	800SF	ELEVATOR RM/PUMP ROOM	G	(H)	F	1
~~053~~	~~Off White~~ SAF	1200SF	" "	G	(H)	F	1
18	Leveled A/W Ceramic floor	350SF	Mens / Womens Bath	G	(H)	F	1
19	Wall Adhesive A/W Ceramic wall	1400SF	" "			NF2	1
11/12	JC / Drywall	1400SF	" "			F	1
20	2x4 Smooth DOT CT	350SF	" "			F	1
~~053~~	~~Off White~~ SAF	2060SF	" "			F	1
11/12	JC / Drywall	2500SF	Lobby 106	G	(H)	F	1
~~31~~	~~SAF~~	~~7600SF~~	" "			F	1
31	SAF	4000SF	" "			F	1
36	12x12 Tan FLR FT/M	50SF	ELEVATOR (Lobby/Main Library)	G	(H)	NF1	1
11/12	JC / Drywall	3,500SF	Community Room	G	(H)	F	1
17	Carpet Adhesive	2000SF	" "			NF1	1
31	SAF	4000SF	" "			F	1
24	Pink Sink Undercoating	1 sink	Kitchen " " (~~Kitchen~~)			F	1
10	2X4 DF CT	2000SF	" "			F	1
35 ~~05~~	MEDIC A/W CB (H1035)	600SF	" "			NF2	1
14	12X12 Tan & Gray Marble FT/M	~~7300SF~~ 2400SF	" "			NF1	1
32	Int Gray Coating on Perim walls	760SF	" "			NF2	1
34	Int window Caulk window ledge Black	25 SF	" "			NF2	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP240084

Site:

Building: Norristown Library

Floor: 1

Inspector: R. Egner

Reviewed By: T. Adams

Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
37	2x2 CT	76 SF	Lobby 106	G	AB	F	1
~~05~~ 38	Brick Floor - Expansion Caulk	150 LF	"	G	AB	NF	1
05	Mastic RW CB	80 SF	"	G	(A)	NF2	1
39	Capstone Metal Cap Caulk		Exterior Roof Lower Roof	G	AB	NF	1
40	Brick Expansion Caulk		"	G	AB	NF2	1
41	Lower Roof Field	12,100 SF	"		PACM	NF1	1
42	Roof Flashing	1,000 LF	"		PACM	NF1	1
43	Tar Roof Pitch	100 SF	"		PACM	NF1	1
44	Pitch Pocket	1 SF	"		PACM	NF1	1
40	Brick Expansion Caulk		Lower Roof Rectangle	G	(B) PACM	NF1	1
39	Capstone Metal Cap Caulk		"		(B)	NF1	1
41	Lower Roof Field	8,100 SF	"		PACM	NF1	1
42	Roof flashing	700 SF	"		PACM	NF1	1
44	Roof field	20,000 SF	Upper Roof	G	PACM	NF	1
45	Terra cotta/Mortar		"		AB	F	1
42	Roof flashing	5000 SF	"		PACM	NF1	1
47	Pitch Pocket	50 SF	"		PACM	NF1	1
43	Tar Pitch Pocket	300 SF	"		PACM	NF1	1
40	Brick Expansion		"		(A)	NF1	1
39	Capstone Metal cap Caulk		"		(B)	NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Norristown Public Library

Floor: Exterior

Inspector: R Eyrich

Reviewed By: T Adams

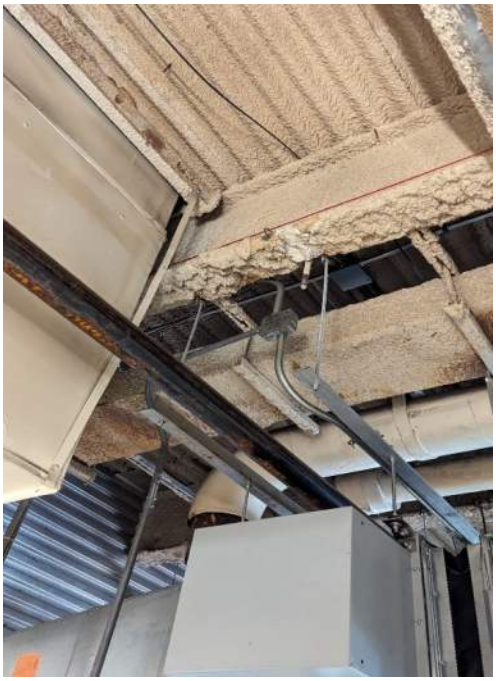
Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
46	Concrete Wall Caulk - Exterior		Exterior of Bldg	G	AB	NF2	1
38	Brick Expansion Caulk		"	G	AC	NF2	1
47	Exterior Brick & Mortar		"	G	AB	F	1
30	Ceiling Plaster	200SF	Exterior. Receiving Dock	G	AD	F	1
46	Give Dots	300SF	Sprinkler Room	G	AB	NF2	1
49	Expansion Caulk AW Plaster	800SF	Exterior	G	AB	NF2	1
30	Ceiling Plaster Hard #130	130SF	Lower Lobby	G	AD	F	1
38	Brick Expansion Floor Caulk	50SF	"	G	AE	NF1	1
11/12	TC / Drywall	200SF	Sprinkler Room	G	AF	F	1
30	Ceiling Plaster		Exterior Over Irving Plumbing	G	EXT F.G	F	1

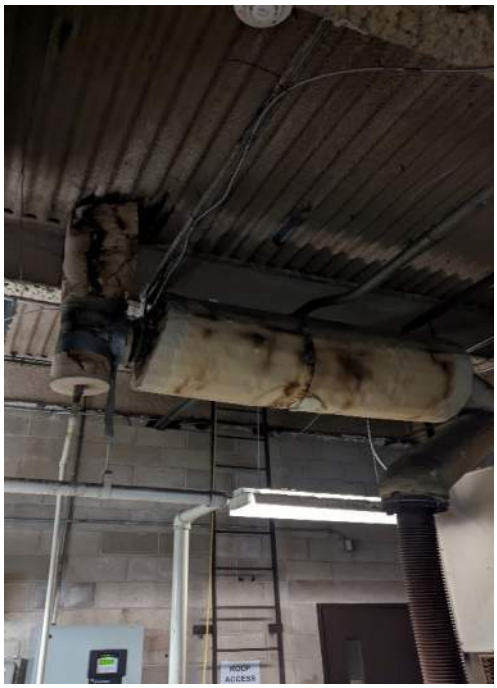
Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

APPENDIX C

Site Photographs



Photograph 1: HID 01. Tan Spray-Applied Fireproofing (NAD)



Photograph 2: HID 02. Generator Thermal Insulation (NAD)



Photograph 3: HID 02. Generator Thermal Insulation (NAD) Debris on Floor



Photograph 4: HID 03. Expansion Caulk (NAD)

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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 5: HID 04. Endcap Mastic (NAD)



Photograph 6: HID 05. Dark Brown Covebase Mastic (NAD)



Photograph 7: HID 06. Air Handler Caulk (ACM)



Photograph 8: HID 07. Duct Seam Caulk (ACM)

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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 9: HID 09. Brick (NAD) and Mortar (NAD)



Photograph 10: HID 10. 2'x4' Dot Fissure Ceiling Tile (NAD)



Photograph 11: HID 11. Joint Compound (NAD) and HID 12. Drywall (NAD)



Photograph 12: HID 14. 12"x12" Tan and Gray Marble Floor Tile (ACM) and Mastic (ACM)

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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 13: HID 21. Interior Window Caulk (NAD)



Photograph 14: HID 23. Black Cement Window Sill (ACM)



Photograph 15: HID 23. Black Cement Window Sill (ACM)



Photograph 16: HID 14. 12”x12” Tan and Gray Marble Floor Tile (ACM) and Mastic (ACM), Pictured in 2nd Floor, Closed Stack Room

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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 17: HID 24. 12”x12” Tan Floor Tile (NAD) and Mastic (NAD); HID 25. 12”x12” Maroon Floor Tile (NAD) and Mastic (NAD); and HID 27. 12”x12” Blue Floor Tile (NAD) and Mastic (NAD)



Photograph 18: HID 26. Gray Floor Leveler (NAD)



Photograph 19: HID 29. Pink Sink Undercoating (ACM)



Photograph 20: HID 31. Spray Applied Fireproofing (NAD), 1st Floor

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Photograph 21: HID 32. Interior Gray Coating (NAD) on Perimeter Walls



Photograph 22: HID 33. Interior Window Caulk White (NAD)



Photograph 23: HID 34. Interior Window/Ledge Black Caulk (NAD)



Photograph 24: HID 35. Covebase Mastic (NAD)

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Photograph 25: HID 36. 12”x12” Brown with Tan Flake Floor Tile (NAD) and Mastic (ACM)



Photograph 26: HID 37. 2’x2’ Ceiling Tile (NAD)



Photograph 27: HID 38. Brick Floor Expansion Caulk (NAD)



Photograph 28: HID 39. Capstone Metal Cap Caulk (NAD)

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Photograph 29: HID 40. Exterior Brick Expansion Caulk (NAD)



Photograph 30: HID 46. Exterior Concrete Wall Expansion Caulk (ACM)



Photograph 31: HID 47. Exterior Brick (NAD) and Mortar (NAD)

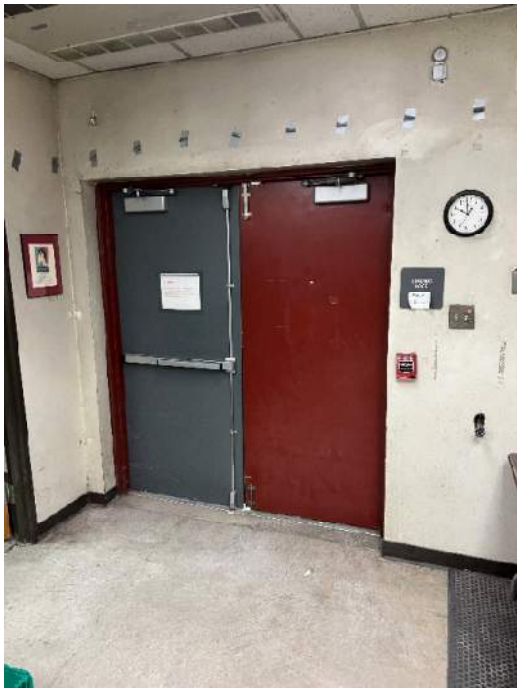


Photograph 32: HID 01. Tan Spray-Applied Fireproofing (NAD) View above drop ceiling.

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Photograph 33: HID 08. Off-White Spray-Applied Fireproofing (NAD) View above drop ceiling.



Photograph 34: HID 13. Fire Doors (Not Sampled/Presumed ACM)



Photograph 35: HID 49. Exterior Plaster Ceiling Expansion Caulk (NAD)



Photograph 36: HID 14. 12”x12” Tan and Gray Marble Floor Tile (ACM) and Mastic (ACM); HID 15. 12”x12” White and Gray Marble Floor Tile (NAD) and Mastic (ACM); HID 16. 12”x12” Gray and Brown Marble Floor Tile (NAD) and Mastic (ACM)

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Photograph 37: HID 17. Carpet Glue (NAD)



Photograph 38: HID 18. Ceramic Floor Wetbed (NAD);
HID 19. Ceramic Wall Adhesive (NAD); and
HID 20. 2'x4' Smooth Dot Ceiling Tile (NAD)

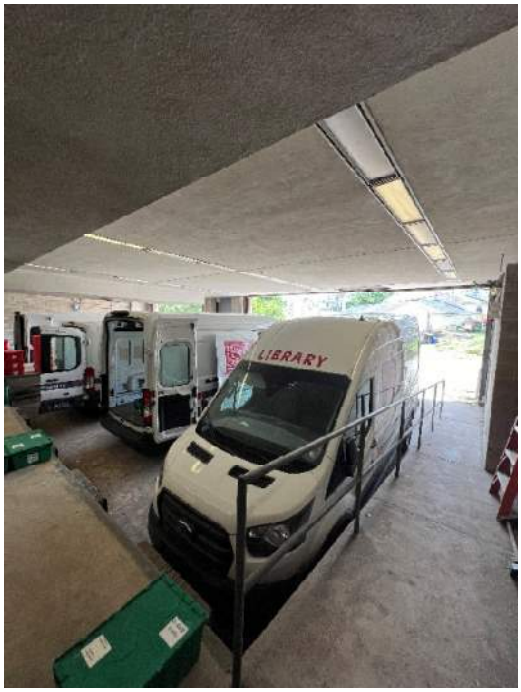


Photograph 39: HID 22. Wall Board Adhesive
(Not Sampled/Presumed ACM)



Photograph 40: HID 28. Mirror Adhesive
(Not Sampled/Presumed ACM)

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Photograph 41: HID 30. Ceiling Plaster (NAD), In Garage



Photograph 42: HID 48. Glue Dots (NAD) associated with Fiberglass Panels



Photograph 43: HID 44. Roof Pitch Pocket
(Not Sampled/Presumed ACM)



Photograph 44: HID 43. Roof Seam Tar
(Not Sampled/Presumed ACM)

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Photograph 45: 4-Foot PCB Ballast



Photograph 46: PCB-Ballast



Photograph 47: Non-PCB Ballast



Photograph 48: Non-PCB Ballast

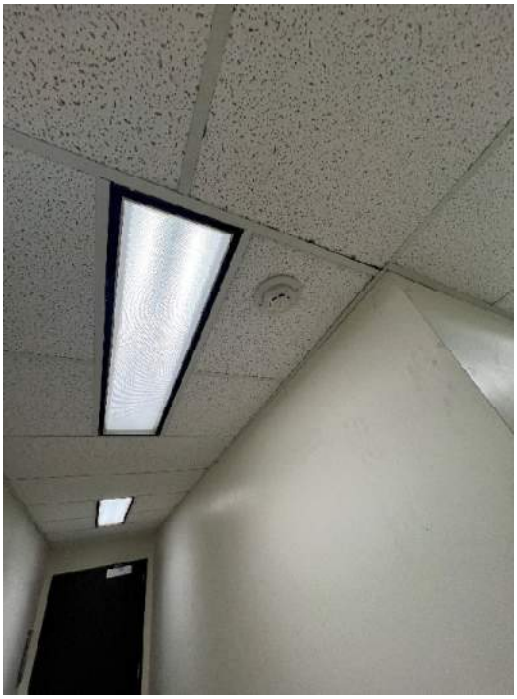
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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 49: Natural Gas Generator



Photograph 50: Mercury Light Fixture



Photograph 51: Smoke Detector



Photograph 52: Mercury Light Fixture

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Photograph 53: Exterior Mercury Light Fixture



Photograph 54. Exterior Mercury Light Fixture



Photograph 55: Dry Transformer – 2nd Floor, Elevator Room



Photograph 56 Elevator Gear System on 2nd Floor

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Photograph 57: Dry Transformer



Photograph 58: Batteries

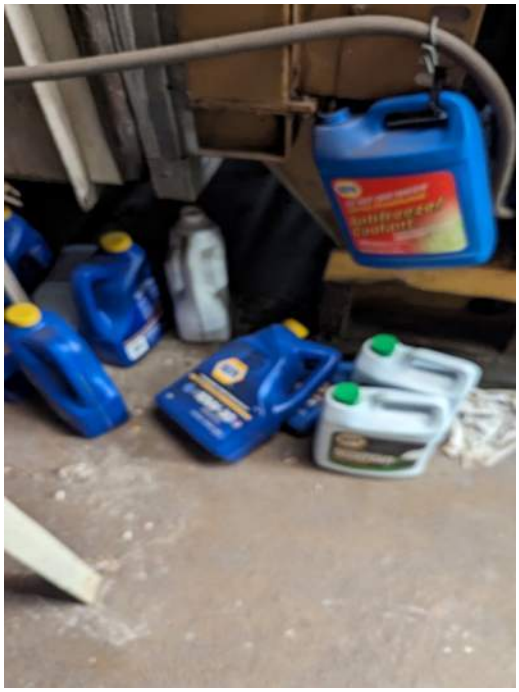


Photograph 59: Batteries



Photograph 60: Miscellaneous Chemicals

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Photograph 61: Miscellaneous Chemicals



Photograph 62: Miscellaneous Chemicals



Photograph 63: Refrigerant Canisters



Photograph 64: Exhaust Fan Unit

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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 65: Non-suspect asbestos-containing material

APPENDIX D

Asbestos Laboratory Analytical Certificates

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411091
Customer ID:	PENN50
Customer PO:	
Project ID:	

Attention:	Rick Egner	**Phone:**	(856) 547-0505
	Pennoni Associates, Inc.	**Fax:**	(856) 547-1039
	515 Grove Street	**Received Date:**	06/03/2024 6:00 PM
	Haddon Heights, NJ 08035	**Analysis Date:**	06/04/2024
		Collected Date:	06/03/2024
Project:	GRMNP24004 / Norristown Public Library		

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
01A *042411091-0001*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 10% Glass	10% Vermiculite 55% Non-fibrous (Other)	None Detected
01B *042411091-0002*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	30% Cellulose 10% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
01C *042411091-0003*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 10% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
01D *042411091-0004*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
01E *042411091-0005*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 15% Glass	10% Vermiculite 55% Non-fibrous (Other)	None Detected
01F *042411091-0006*	Throughout Bldg - Tan Spray-on Fireproofing	Brown Fibrous Homogeneous	20% Cellulose 5% Glass	10% Vermiculite 65% Non-fibrous (Other)	None Detected
01G *042411091-0007*	Throughout Bldg - Tan Spray-on Fireproofing	Brown Fibrous Homogeneous	20% Cellulose 5% Glass	10% Vermiculite 65% Non-fibrous (Other)	None Detected
02A *042411091-0008*	Mech Room 224 - Generator Thermal Insulation	Gray Fibrous Homogeneous	10% Cellulose 35% Min. Wool	55% Non-fibrous (Other)	None Detected
02B *042411091-0009*	Mech Room 224 - Generator Thermal Insulation	Gray Fibrous Homogeneous	5% Cellulose 30% Min. Wool	65% Non-fibrous (Other)	None Detected
02C *042411091-0010*	Mech Room 224 - Generator Thermal Insulation	Brown/Gray Fibrous Homogeneous	5% Cellulose 2% Glass	93% Non-fibrous (Other)	None Detected
03A *042411091-0011*	Mech Room 224/222 - Expansion Caulk (Door/Wall)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
03B *042411091-0012*	Mech Room 224/222 - Expansion Caulk (Door/Wall)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
04A *042411091-0013*	Mech Room 224/222 - End Cap Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
04B *042411091-0014*	Mech Room 224/222 - End Cap Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
05A *042411091-0015*	Throughout 2nd Floor - Mastic a/w Cove Base	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
05B *042411091-0016*	Throughout 2nd Floor - Mastic a/w Cove Base	Brown Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected

Initial report from: 06/04/2024 10:41:33

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200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 042411091
Customer ID: PENN50
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
06A *042411091-0017*	Mech Room 222 - Air Handler Caulk	White Non-Fibrous Homogeneous		95% Non-fibrous (Other)	**5% Chrysotile**
06B *042411091-0018*	Mech Room 222 - Air Handler Caulk				**Positive Stop (Not Analyzed)**
07A *042411091-0019*	Mech Room 222 - Duct Seam Caulk	White/Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	**3% Chrysotile**
07B *042411091-0020*	Mech Room 222 - Duct Seam Caulk				**Positive Stop (Not Analyzed)**
08A *042411091-0021*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	5% Vermiculite 55% Non-fibrous (Other)	None Detected
08B *042411091-0022*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 10% Glass	5% Vermiculite 65% Non-fibrous (Other)	None Detected
08C *042411091-0023*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
08D *042411091-0024*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 10% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
08E *042411091-0025*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
08F *042411091-0026*	Off-white Spray-on Fireproofing	Brown Fibrous Homogeneous	25% Cellulose 5% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
08G *042411091-0027*	Off-white Spray-on Fireproofing	Brown Fibrous Homogeneous	25% Cellulose 5% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
09A *042411091-0028*	2nd Floor Hallway 229 - Brick	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09MA *042411091-0029*	2nd Floor Hallway 229 - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09B *042411091-0030*	2nd Floor Hallway 229 - Brick	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09MB *042411091-0031*	2nd Floor Hallway 229 - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10A *042411091-0032*	2nd Floor T/O Bldg - 2x4 Dot Fissure Ceiling Tile	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
10B *042411091-0033*	2nd Floor T/O Bldg - 2x4 Dot Fissure Ceiling Tile	Gray Fibrous Homogeneous	65% Cellulose 20% Min. Wool	15% Non-fibrous (Other)	None Detected
11A *042411091-0034*	Throughout Bldg - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11B *042411091-0035*	Throughout Bldg - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/04/2024 10:41:33

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 042411091
Customer ID: PENN50
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
12A *042411091-0036*	Throughout Bldg - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose 5% Glass	80% Non-fibrous (Other)	None Detected
12B *042411091-0037*	Throughout Bldg - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
14A *042411091-0038*	2nd Floor Hallway 227 - 12x12 Tan and Grey FT	Gray/Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	**5% Chrysotile**
14MA *042411091-0039*	2nd Floor Hallway 227 - Mastic	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	**5% Chrysotile**
14B *042411091-0040*	2nd Floor Hallway 221 - 12x12 Tan and Grey FT				**Positive Stop (Not Analyzed)**
14MB *042411091-0041*	2nd Floor Hallway 221 - Mastic				**Positive Stop (Not Analyzed)**
15A *042411091-0042*	2nd Floor Storage Rm 225 - 12x12 White Grey FT	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15MA *042411091-0043*	2nd Floor Storage Rm 225 - Mastic	Black Non-Fibrous Homogeneous		94% Non-fibrous (Other)	**6% Chrysotile**
15B *042411091-0044*	2nd Floor Storage Rm 225 - 12x12 White Grey FT	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15MB *042411091-0045*	2nd Floor Storage Rm 225 - Mastic				**Positive Stop (Not Analyzed)**
17A *042411091-0046*	Hallway 221 - Carpet Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17B *042411091-0047*	Hallway 221 - Carpet Adhesive	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18A *042411091-0048*	Mens 219 / Womens 220 - Wetbed a/w Ceramic Floor	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18B *042411091-0049*	Mens 219 / Womens 220 - Wetbed a/w Ceramic Floor	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19A *042411091-0050*	Mens 219 / Womens 220 - Wall Adhesive a/w Ceramic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19B *042411091-0051*	Mens 219 / Womens 220 - Wall Adhesive a/w Ceramic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
20A *042411091-0052*	Mens 219 / Womens 220 - 2x4 Smooth Dot Ceiling Tile	Gray/White Fibrous Homogeneous	60% Min. Wool	40% Non-fibrous (Other)	None Detected
20B *042411091-0053*	Mens 219 / Womens 220 - 2x4 Smooth Dot Ceiling Tile	Gray/White Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected

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EMSL Order:	042411091
Customer ID:	PENN50
Customer PO:	
Project ID:	

Analyst(s)

Amy Schulze (30)
Brett Polumbo (18)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 “Interim Method”) but augmented with procedures outlined in the 1993 (”final”) version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

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OrderID: 042411091

Pennoni

01A-01G and 02C per email w/ Rick 042411091

-NS 6-3-14 Laboratory: Envi PAGE 1 of

Send invoice to *(circle one)*: Haddon Heights *(PENN50)* Philadelphia *(PENN54)* Newark/New York *(PNNJ42)* Other:

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

Project #: GRMNP24604 Collected by: Rick Egner Date: 6/3/14

Site: Norristown Public Library Transported by: Rick Egner Date: 6/3/14

Section: Received by: [illegible] Date: 6/3/14 1530

Floor: Analyzed by: Date:

Analysis Turnaround Time

1 Day [X] 2 Day [ ] 3 Day [ ] 5 Day [ ] 7 Day [ ]

Contact: Tom Adams / Rick Egner Cell: Email: tadams@pennoni.com / regner@pennoni.com

[X] PLM [X] 1ST POSITIVE STOP [ ] ANALYZE AS NYC/NYS SAMPLES

[ ] ANALYZE NOBs VIA PLM 1ST POSITIVE STOP, THEN ANALYZE 1ST SAMPLE OF EACH MATERIAL SET VIA TEM-NOB

[ ] ANALYZE PLM-NOB 1ST POSITIVE STOP, THEN TEM-NOB 1ST POSITIVE STOP

Sample ID #	Type of Material	Location 45
01A-G	TAN Spray on fireproofing	Throughout Bldg
02A, 02B	Generator Thermal Insulation	Mech Room 224
03A, 03B	Expansion Caulk (door well)	Mech Room 224/222
04A, 04B	End cap Mastic	Mech Room 224/222
05A, 05B	Mastic AIW Cove Base	Throughout 2nd floor
06A, 06B	Air handler Caulk	Mech Room 222
07A, 07B	Duct Seam Caulk	" "
08A/MA, 08B/MB	Brick & Mortar	2nd floor Hallway 229
10A, 10B	2X4 DST Fissure Ceiling Tile	2nd floor/T/O Bldg
11A, 11B	Joint Compound	Throughout Bldg
12A, 12B	Drywall	Throughout Bldg
14A, 14MA	12X12 TAN & Gray FT/mastic	HALLWAY 227 - 2nd floor
14B 14MB	" "	Hallway 227 2nd floor
15A, 15B 15MB	12X12 white Gray FT/mastic	Storage RM 225 - 2nd floor
17A, 17B	Carpet Adhesive	HALLWAY 221
18A, 18B	Wetbed AIW Ceramic floor	Mens 219 / Womens 220
19A, 19B	Wall Adhesive A/W Ceramic	" "
20A, 20B	2X4 Smooth DST Ceiling	Mens 219 / Womens 220

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53

→ Only analyze Adhesive [illegible] Ceramic for #19A, 19B

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Customer ID:	PENN50
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Attention:	Thomas Adams	**Phone:**	(856) 656-2912
	Pennoni Associates, Inc.	**Fax:**	(856) 547-1039
	515 Grove Street	**Received Date:**	06/05/2024 3:20 PM
	Haddon Heights, NJ 08035	**Analysis Date:**	06/06/2024
		Collected Date:	06/04/2024
Project:	GRMNP24004 / Norristown Library		

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
05-C *042411269-0001*	Employee Lounge 126 - Mastic Associated with Cove Base	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
08-H *042411269-0002*	Employee Lounge 126 - Off White SAF	White Fibrous Homogeneous	30% Cellulose 15% Glass	5% Vermiculite 50% Non-fibrous (Other)	None Detected
08-I *042411269-0003*	Employee Lounge 126 - Off White SAF	Brown Fibrous Homogeneous	25% Cellulose 10% Glass	6% Vermiculite 59% Non-fibrous (Other)	None Detected
11-C *042411269-0004*	Room 127 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17-C *042411269-0005*	Employee Lounge 126 - Carpet Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21A *042411269-0006*	Children Stack Area - Interior Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21B *042411269-0007*	Children Stack Area - Interior Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
23-A *042411269-0008*	Children Stack Area - Black Cement Window Sink	Black Non-Fibrous Homogeneous		85% Non-fibrous (Other)	**15% Chrysotile**
23-B *042411269-0009*	Children Stack Area - Black Cement Window Sink				**Positive Stop (Not Analyzed)**
24A *042411269-0010*	Story Telling Area 202 - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24AM *042411269-0011*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24B *042411269-0012*	Story Telling Area 202 - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24BM *042411269-0013*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
25A *042411269-0014*	Story Telling Area 202 - 12x12 Maroon Floor Tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
25AM *042411269-0015*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
25B *042411269-0016*	Story Telling Area 202 - 12x12 Maroon Floor Tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
25BM *042411269-0017*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26A *042411269-0018*	Story Telling Area 202 - Grey Floor Leveler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26B *042411269-0019*	Story Telling Area 202 - Grey Floor Leveler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27A *042411269-0020*	Story Telling Area 202 - 12x12 Blue Floor Tile	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27AM *042411269-0021*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27B *042411269-0022*	Story Telling Area 202 - 12x12 Blue Floor Tile	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27BM *042411269-0023*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
29A *042411269-0024*	Employee Lounge 126 - Pink Sink Undercoating	Pink Non-Fibrous Homogeneous		97% Non-fibrous (Other)	**3% Chrysotile**
29B *042411269-0025*	Employee Lounge 126 - Pink Sink Undercoating				**Positive Stop (Not Analyzed)**
26C *042411269-0026*	Employee Lounge 126 - Grey Floor Leveler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30A-Plaster *042411269-0027*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30A-Skim Coat *042411269-0027A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30B-Plaster *042411269-0028*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30B-Skim Coat *042411269-0028A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30C-Plaster *042411269-0029*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30C-Skim Coat *042411269-0029A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30D-Plaster *042411269-0030*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30D-Skim Coat *042411269-0030A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30E-Plaster *042411269-0031*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
30E-Skim Coat *042411269-0031A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30F-Plaster *042411269-0032*	Exterior Overhang - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30F-Skim Coat *042411269-0032A*	Exterior Overhang - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30G-Plaster *042411269-0033*	Exterior Overhang - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30G-Skim Coat *042411269-0033A*	Exterior Overhang - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
31A *042411269-0034*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31B *042411269-0035*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31C *042411269-0036*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31D *042411269-0037*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31E *042411269-0038*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	30% Non-fibrous (Other)	None Detected
31F *042411269-0039*	1st Floor - Spray-on Fireproofing	Brown Fibrous Homogeneous	20% Cellulose 5% Glass	5% Vermiculite 70% Non-fibrous (Other)	None Detected
31G *042411269-0040*	1st Floor - Spray-on Fireproofing	Brown Fibrous Homogeneous	25% Cellulose 10% Glass	7% Vermiculite 58% Non-fibrous (Other)	None Detected
32A *042411269-0041*	1st Floor - Interior Grey Perimeter Wall Coating	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32B *042411269-0042*	1st Floor - Interior Grey Perimeter Wall Coating	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
33A *042411269-0043*	1st Floor - Interior White Window Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
33B *042411269-0044*	1st Floor - Interior White Window Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
34A *042411269-0045*	1st Floor - Interior Black Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
34B *042411269-0046*	1st Floor - Interior Black Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
35A-Mastic *042411269-0047*	1st Floor - Tan Mastic Associated with Cove Base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
35B *042411269-0048*	1st Floor - Tan Mastic Associated with Cove Base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36A *042411269-0049*	Elevators - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36AM *042411269-0050*	Elevators - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36AM-Mastic 2 *042411269-0050A* *Result includes a small amount of inseparable attached material*	Elevators - Mastic	Brown/Black Fibrous Heterogeneous	30% Cellulose	68% Non-fibrous (Other)	**2% Chrysotile**
36B *042411269-0051*	Elevators - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36BM *042411269-0052* *Result includes a small amount of inseparable attached material*	Elevators - Mastic	Black/Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
37A *042411269-0053*	Lobby 106 -1st Floor - 2x2 Ceiling Tile	Gray Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
37B *042411269-0054*	Lobby 106 -1st Floor - 2x2 Ceiling Tile	Gray Fibrous Homogeneous	60% Cellulose 25% Min. Wool	15% Non-fibrous (Other)	None Detected
38A-Caulk *042411269-0055*	Lobby 106 Lower Level Lobby - Brick Floor Expansion Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
38A-Backing *042411269-0055A*	Lobby 106 Lower Level Lobby - Brick Floor Expansion Caulk	Black Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
38B *042411269-0056* *Result includes a small amount of inseparable attached material*	Lobby 106 Lower Level Lobby - Brick Floor Expansion Caulk	Tan/Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
39A *042411269-0057*	Roof - Capstone Mortar Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
39B *042411269-0058*	Roof - Capstone Mortar Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
40A *042411269-0059*	Exterior of Building - Exterior Brick Expansion Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
40B *042411269-0060*	Exterior of Building - Exterior Brick Expansion Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
45A-Teracotta *042411269-0061*	Exterior Roof - Teracotta	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
45A-Mortar *042411269-0061A*	Exterior Roof - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
45B-Teracotta *042411269-0062*	Exterior Roof - Teracotta	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
45B-Mortar *042411269-0062A*	Exterior Roof - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
46A *042411269-0063*	Exterior of Building - Concrete Wall Caulk	Gray/White Non-Fibrous Homogeneous		98% Non-fibrous (Other)	**2% Chrysotile**
46B *042411269-0064*	Exterior of Building - Concrete Wall Caulk				**Positive Stop (Not Analyzed)**
47A-Brick *042411269-0065*	Exterior of Building - Brick	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
47A-Mortar *042411269-0065A*	Exterior of Building - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
47B-Brick *042411269-0066*	Exterior of Building - Brick	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
47B-Mortar *042411269-0066A*	Exterior of Building - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
48A *042411269-0067*	Sprinkler Room - Glue Dot	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
48B *042411269-0068*	Sprinkler Room - Glue Dot	Tan Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
49A *042411269-0069*	Exterior of Building - Expansion Caulk Associated with Plaster Ceiling	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
49B *042411269-0070*	Exterior of Building - Expansion Caulk Associated with Plaster Ceiling	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16A *042411269-0071*	12x12 Grey/Brown Floor Tile	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16AM *042411269-0072* *Result includes a small amount of inseparable attached material*	Mastic	Black/Yellow Non-Fibrous Heterogeneous		98% Non-fibrous (Other)	**2% Chrysotile**
16B *042411269-0073*	12x12 Grey/Brown Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16BM *042411269-0074*	Mastic				**Positive Stop (Not Analyzed)**

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Analyst(s)

Brett Polumbo (32)
Selbbep Salgado (51)



Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

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OrderID: 042411269

Pennoni 042411269

Laboratory: EMSL

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ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

Project #: GRMNP24004 Collected by: RICK EGNER Date: 6/4/24

Site: NORRISTOWN LIBRARY Transported by: [signature] Date: 6/5/24

Section: _____ Received by: [signature] LI Date: 6/5/24 3:29p

Floor: _____ Analyzed by: _____ Date: _____

Analysis Turnaround Time

1 Day ☒ 2 Day ☐ 3 Day ☐ 5 Day ☐ 7 Day ☐

Contact: TOM ADAMS Cell: _____ Email: TAdams@Pennoni.com
RGEgner@Pennoni.com

☒ PLM ☒ 1ST POSITIVE STOP ☐ ANALYZE AS NYC/NYS SAMPLES

☐ ANALYZE NOBs VIA PLM 1ST POSITIVE STOP, THEN ANALYZE 1ST SAMPLE OF EACH MATERIAL SET VIA TEM-NOB

☐ ANALYZE PLM-NOB 1ST POSITIVE STOP, THEN TEM-NOB 1ST POSITIVE STOP

Sample ID #	Type of Material	Location
05-C	MASTIC A/W COVE BASE	EMPLOYEE LOUNGE 126
08-H	OFF-WHITE SAF	"
08-I	"	"
11-C	JOINT COMPOUND	RM 127
17-C	CARPET ADHESIVE	EMPLOYEE LOUNGE 126
21-A	INTERIOR WINDOW CAULK	CHILDREN STACK AREA
21-B	"	"
23-A	BLACK CEMENT WINDOW SILL	"
23-B	"	"
* 24-A,MA	12x12 TAN FLOOR TILE & MASTIC	STORY TELLING AREA 202
* 24-B,MB	"	"
* 25-A,MA	12x12 MAROON FLOOR TILE & MASTIC	"
* 25-B,MB	"	"
26-A	GRAY FLOOR LEVELER	"
26-B	"	"
27-A,MA	12"x12" BLUE FLOOR TILE & MASTIC	"
27-B,MB	"	"
29-A	PINK SINK UNDERCOATING	EMPLOYEE LOUNGE 126
29-B	"	"
26-C	GRAY FLOOR LEVELER	"
30-A,B,C,D,E	CEILING PLASTER	GARAGE 117

RECEIVED EMSL CINNAMINSON, N.J. 2024 JUN -5 P 3:18

* MASTIC IS PRIMARILY ON SAMPLES 26-A, 26-B

OrderID: 042411269

Pennoni 042411269 Emsr

Laboratory: _____ PAGE 2 of 2

Send invoice to *(circle one)*: Haddon Heights *(PENN50)* Philadelphia *(PENN54)* Newark/New York *(PNNJ42)* Other: _____

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

Project #: GRMNB24004 Collected by: Rick Egner Date: 6/5/24
Site: Norristown Public Library Transported by: Rick E Date: 6/5/24
Section: _____ Received by: [signature] WI Date: 6/5/24 3:20pm
Floor: _____ Analyzed by: _____ Date: _____

Analysis Turnaround Time

1 Day [X] 2 Day [ ] 3 Day [ ] 5 Day [ ] 7 Day [ ]

Contact: Tom Adams / Rick Egner Cell: _____ Email: tadams@pennoni.com / regner@pennoni.com

[X] PLM [X] 1ST POSITIVE STOP [ ] ANALYZE AS NYC/NYS SAMPLES

[ ] ANALYZE NOBs VIA PLM 1ST POSITIVE STOP, THEN ANALYZE 1ST SAMPLE OF EACH MATERIAL SET VIA TEM-NOB

[ ] ANALYZE PLM-NOB 1ST POSITIVE STOP, THEN TEM-NOB 1ST POSITIVE STOP

Sample ID #	Type of Material	Location
30F, 30G	Ceiling Plaster	Exterior overhang
31A-G	Spray on Fireproofing	1st floor
32A, 32B	Interior Gray Perimeter Wall Caulking	1st floor
33A, 33B	Interior White Window Caulk	1st floor
34A, 34B	Interior Black Window Caulk	1st floor
35A, 35B	TAN Mastic N/W Coveboss	1st floor
36A, 36MA, 36B, 36MB	12x12 Tan Sp Flake Floor Tile Mastic	Elevators
37A, 37B	2x2 Ceiling Tile	Lobby 106 - 1st floor
38A, 38B	Brick floor Expansion Caulk	Lobby 106 / Lower Level Lobby
39A, 39B	Capstone Mortar Cap Caulk	Roof
40A, 40B	Exterior Brick Wall Expansion Caulk	Exterior of Bldg
45A, 45B	Term Cotta & mortar	Exterior Roof
46A, 46B	Concrete wall Caulk	Exterior of Bldg
47A, 47B	Brick & Mortar (Exterior)	Exterior of Bldg
48A, 48B	Glue dots	Sprinkler Room
49A, 49B	Expansion Caulk B/W Plaster Ceiling	Exterior of Bldg
16A, 16MA	See email	
16B, 16MB	6/5/24	

2024 JUN -5 P 3:19
CINNAMINSON, N.J.
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HID 45A, B
Do not analyze

APPENDIX E

XRF Performance Characteristic Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2022

MANUFACTURER AND MODEL:

Make: ***SciAps***
Models: ***Model X-550***
X-Ray Source: ***Rhodium (Rh) or Gold (Au) Anode***

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm^2

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm^2 to use this PCS.

OPERATING PARAMETERS:

Timed mode: fixed 10-second reading.

Quick mode: variable-time reading (approximately 2-6 seconds).

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive) on NIST SRM 2579 (1.02 mg/cm^2)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

Rh Anode (Timed or Quick) READING DESCRIPTION	**SUBSTRATE**	**THRESHOLD (mg/cm^2)**
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	0.5 0.5 0.5 0.5 0.5 0.5
Au Anode (Timed or Quick) READING DESCRIPTION	**SUBSTRATE**	**INCONCLUSIVE RANGE (mg/cm^2)**
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	(0.4-0.6) (0.4-0.6) (0.4-0.6) (0.4-0.6) (0.4-0.6) (0.4-0.6)

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Edition ("HUD Guidelines"). Performance parameters shown on this sheet are calculated using test results on building components in the HUD archive. Testing was conducted on 146 test samples in February 2022, with two separate instruments of each Anode type, operated in both Timed and Quick modes.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film; for NIST SRM 2579a, use film 2573 (1.04 mg/cm^2).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below. Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this

procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

The reading time in Archive tests was 10 seconds in Timed mode and from 2-6 seconds in Quick mode, for both the Rh Anode and Au Anode.

CLASSIFICATION OF RESULTS:

XRF results for the Rh Anode in Timed or Quick mode are classified as **positive** if they are **greater than or equal** to 0.5 mg/cm^2 and ***negative*** if they are ***less than*** 0.5 mg/cm^2.

XRF results for the Au Anode in Timed or Quick mode are classified as **positive** if they are **greater than or equal** to 0.6 mg/cm^2, ***negative*** if they are ***less than or equal*** to 0.4 mg/cm^2 and ***inconclusive*** if they are ***greater*** than 0.4 mg/cm^2 **AND** ***less than*** 0.6 mg/cm^2.

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm^2 and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. The report may be downloaded at http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

APPENDIX F

Lead-Based Paint Data

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7134	Calibration									1.06	OK	OK
7135	Calibration									1.02	OK	OK
7136	Calibration									1.04	OK	OK
7137	Calibration									1.04	OK	OK
7138	Interior	2	Hall 227	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7139	Interior	2	Hall 227	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7140	Interior	2	Hall 227	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7141	Interior	2	Mech 224	A	Brown	Ladder	Ladder	Metal	Intact	0.06	Negative	Positive
7142	Interior	2	Mech 224	A	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7143	Interior	2	Mech 222	D	Brown	Door	Door	Metal	Intact	0.02	Negative	Positive
7144	Interior	2	Mech 222	D	Brown	Door	Jamb	Metal	Intact	0.02	Negative	Positive
7145	Interior	2	Storage #6	C	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7146	Interior	2	Storage #6	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7147	Interior	2	Storage #6	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7148	Interior	2	Storage #6	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7149	Interior	2	Storage #6	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7150	Interior	2	Closed Stacks	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7151	Interior	2	Closed Stacks	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7152	Interior	2	Closed Stacks	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7153	Interior	2	Closed Stacks	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7154	Interior	2	Closed Stacks	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7155	Interior	2	Closed Stacks	B	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive
7156	Interior	2	Roof Access	C	Brown	Door	Door	Metal	Intact	0.02	Negative	Positive
7157	Interior	2	Roof Access	C	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7158	Interior	2	Elevator Room	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7159	Interior	2	Elevator Room	B	Brown	Door	Door	Metal	Intact	0.02	Negative	Positive
7160	Interior	2	Elevator Room	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7161	Interior	2	Elevator Room	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7162	Interior	2	Elevator Room	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7163	Interior	2	Elevator Room	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7164	Interior	2	Elevator	Center	Light Brown	Door	Door	Metal	Intact	0.55	Negative	Positive
7165	Interior	2	Stair#3	B	Brown	Door	Door	Metal	Intact	0.01	Negative	Positive
7166	Interior	2	Stair#3	B	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive

EPA/HUD Positive
OSHA Positive

Pennoni

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7167	Interior	2	Stair#3	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7168	Interior	2	Stair#3	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7169	Interior	2	Stair#3	Center	White	Pipe	Vertical	Metal	Intact	0.05	Negative	Positive
7170	Interior	2	Hall 221	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7171	Interior	2	Hall 221	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7172	Interior	2	Hall 221	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7173	Interior	2	Hall 221	C	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7174	Interior	2	Mens Room	B	Brown	Door	Frame	Metal	Intact	0.02	Negative	Positive
7175	Interior	2	Womens Room	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7176	Interior	2	Mens Rm	A	Tan	Wall		Ceramic Wall	Intact	0.01	Negative	Positive
7177	Interior	2	Mens Rm	B	Tan	Wall		Ceramic Wall	Intact	0.01	Negative	Positive
7178	Interior	2	Business Office	B	White	Wall		Drywall	Intact	0.00	Negative	Negative
7179	Interior	2	Business Office	A	White	Wall		Drywall	Intact	0.00	Negative	Negative
7180	Interior	2	Business Office	D	White	Wall		Drywall	Intact	0.00	Negative	Negative
7181	Interior	2	Business Office	D	Brown	Window	Frame	Metal	Intact	0.07	Negative	Positive
7182	Interior	2	Business Office	D	Brown	Door	Frame	Metal	Intact	0.05	Negative	Positive
7183	Interior	2	Childrens Section	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7184	Interior	2	Childrens Section	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7185	Interior	2	Childrens Section	Center	Orange	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7186	Interior	2	Childrens Section	Center	Red	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7187	Interior	2	Childrens Section	Center	Yellow	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7188	Interior	2	Childrens Section	Center	Green	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7189	Interior	2	Childrens Section	Center	Blue	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7190	Interior	2	Childrens Section	A	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7191	Interior	2	Childrens Section	A	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive
7192	Interior	2	Childrens Section	A	Orange	Door	Jamb	Drywall	Intact	0.00	Negative	Negative
7193	Interior	2	Childrens Section	A	Tan	Door	Jamb	Drywall	Intact	0.00	Negative	Negative
7194	Interior	2	Story Rm	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7195	Interior	2	Story Rm	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7196	Interior	2	Story Rm	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7197	Interior	2	Story Rm	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7198	Interior	2	Story Rm	D	Brown	Door	Frame	Metal	Intact	0.10	Negative	Positive
7199	Interior	2	Story Rm	C	Brown	Window	Casting	Metal	Intact	0.00	Negative	Negative

EPA/HUD Positive
OSHA Positive

Pennoni

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7200	Interior	1	Stair#4	Center	Brown	Stair	Risers	Metal	Intact	0.04	Negative	Positive
7201	Interior	1	Stair#4	Center	Brown	Stair	Baseboard	Metal	Intact	0.06	Negative	Positive
7202	Interior	1	Stair#4	Center	Brown	Stair	Balusters	Metal	Intact	0.02	Negative	Positive
7203	Interior	1	Stair#4	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7204	Interior	1	Stair#4	B	White	Wall	Wall	Drywall	Intact	0.01	Negative	Positive
7205	Interior	1	Stair#4	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7206	Interior	1	Stair#4	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7207	Interior	1	Stair#4	B	Brown	Door	Door	Metal	Intact	0.01	Negative	Positive
7208	Interior	1	Stair#4	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7209	Interior	1	Employee Lounge	D	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7210	Interior	1	Employee Lounge	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7211	Interior	1	Employee Lounge	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7212	Interior	1	Employee Lounge	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7213	Interior	1	Employee Lounge	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7214	Interior	1	Employee Lounge	C	Brown	Window	Casting	Metal	Intact	0.00	Negative	Negative
7215	Interior	1	Employee Lounge	C	Black	Window	Sill	Concrete	Intact	0.00	Negative	Negative
7216	Interior	1	Technical Processing	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7217	Interior	1	Technical Processing	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7218	Interior	1	Technical Processing	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7219	Interior	1	Technical Processing	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7220	Interior	1	Hall 114	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7221	Interior	1	Hall 114	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7222	Interior	1	Hall 114	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7223	Interior	1	Hall 114	B	Brown	Door	Jamb	Metal	Intact	0.02	Negative	Positive
7224	Interior	1	Hall 114	D	White	Electric Panel	Frame	Metal	Intact	0.01	Negative	Positive
7225	Interior	1	Hall 114	D	White	Electric Panel	Door	Metal	Intact	0.01	Negative	Positive
7226	Interior	1	Extension Room 123	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7227	Interior	1	Extension Room 123	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7228	Interior	1	Extension Room 123	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7229	Interior	1	Extension Room 123	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7230	Interior	1	Extension Room 123	D	Brown	Window	Casting	Metal	Intact	0.00	Negative	Negative
7231	Interior	1	Extension Room 123	A	Tan	Bookcase	Shelf	Metal	Intact	0.01	Negative	Positive
7232	Interior	1	Extension Room 123	A	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive

EPA/HUD Positive
OSHA Positive

Pennoni

LEAD-BASED PAINT SCREENING

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Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7233	Interior	1	Storage 121	A	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7234	Interior	1	Storage 121	B	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7235	Interior	1	Storage 121	C	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7236	Interior	1	Storage 121	D	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7237	Interior	1	Hall 120	A	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7238	Interior	1	Hall 120	B	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7239	Interior	1	Hall 120	C	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7240	Interior	1	Hall 120	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7241	Interior	1	Hall 120	D	Red	Door	Door	Metal	Intact	0.00	Negative	Negative
7242	Interior	1	Hall 120	D	Gray	Door	Door	Metal	Intact	0.00	Negative	Negative
7243	Interior	1	Hall 120	D	Red	Door	Frame	Metal	Intact	0.01	Negative	Positive
7244	Interior	1	Garage 117	B	Brown	Door	Frame	Metal	Intact	0.02	Negative	Positive
7245	Interior	1	Garage 117	B	Brown	Door	Door	Metal	Intact	0.01	Negative	Positive
7246	Interior	1	Garage 117	D	Gray	Door	Door	Metal	Intact	0.00	Negative	Negative
7247	Interior	1	Garage 117	D	Gray	Door	Frame	Metal	Intact	0.00	Negative	Negative
7248	Interior	1	Garage 117	Center	Yellow	Wall		Concrete	Intact	0.00	Negative	Negative
7249	Interior	1	Garage 117	A	Tan	HVAC	Vent Casing	Metal	Intact	0.02	Negative	Positive
7250	Interior	1	Mens 115	A	Tan	Wall	Wall	No Selection	Intact	0.01	Negative	Positive
7251	Interior	1	Mens 115	D	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7252	Interior	1	Janitor 111	D	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7253	Interior	1	Janitor 111	D	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive
7254	Interior	1	Janitor 111	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7255	Interior	1	Janitor 111	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7256	Interior	1	Janitor 111	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7257	Interior	1	Janitor 111	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7258	Interior	1	Janitor 111	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7259	Interior	1	Janitor 111	Center	Tan	Bookcase	Shelf	Metal	Intact	0.00	Negative	Negative
7260	Interior	1	Janitor 111	Center	Tan	Bookcase	Shelf	Metal	Intact	0.00	Negative	Negative
7261	Interior	1	Main Library	Center	Yellow	Support Column	pillar	Concrete	Intact	0.00	Negative	Negative
7262	Interior	1	Main Library	Center	Yellow	Support Column	pillar	Concrete	Intact	0.00	Negative	Negative
7263	Interior	1	Main Library	Center	White	Soffit		Drywall	Intact	0.00	Negative	Negative
7264	Interior	1	Main Library	A	Blue	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7265	Interior	1	Main Library	D	Light Blue	Wall	Wall	Drywall	Intact	0.00	Negative	Negative

EPA/HUD Positive
OSHA Positive

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7266	Interior	1	106 Lobby	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7267	Exterior	1		A	Brown	Door	Frame	Metal	Intact	0.00	Negative	Negative
7268	Exterior	1		A	Black	Window	Casting	Metal	Intact	0.00	Negative	Negative
7269	Exterior	1		A	Brown	Door	Door	Metal	Intact	0.00	Negative	Negative
7270	Calibration									1.01	OK	OK
7271	Calibration									1.01	OK	OK
7272	Calibration									1.02	OK	OK
7273	Calibration									1.01	OK	OK

EPA/HUD Positive
OSHA Positive

APPENDIX G

Hazardous Materials Inventory

HAZARDOUS MATERIALS INVENTORY FORM

Project Number: GRMNP24004 Page 3 of

Site: Inspector: Rick Eg

Building: Norristown Public Library Reviewed By: Jeremy Humble

Floor: 1st Date: 6/4/24

Type	Fluorescent Bulbs	Count
2 ft		
4 ft	60+72+16+8+16+6+55+22+124+11<	
~~4 ft~~ ~~8 ft~~ other	8+10+463 1852+100	
CFL Bulbs		
Type	**Ballast (PCB containing)**	**Count**
2 ft		
4 ft	15+4+2+6+8+30+7+6+11+2+6	
~~8 ft~~ / other	900 +25	
	Emergency Batteries/ Lights	**Count**
	2+2	
	Mercury Thermostat Switches	**Count**
	25 (Exterior)	
	Smoke Detectors	**Count**
	2+3+1+6+4+2+4+1+2+4+1+4	
Type	**Transformers**	**Count**
Dryed		
Oil filled		
Type	**Ozone Depleting Substances/ Equipment**	**Count**
AC Units		
Refrig/ Freezer	2+1 mini fridge +1 mini freezer +1 drink machine	
Cooler/ Fountains	1	
Freon tanks		
Other	Printers +/-	
Type	**Other Substances/ Equipment**	**Count**
Lead-Acid Batteries	2	
Stored Chemicols		
	NOTES	

Compressor (garage 1st)

HAZARDOUS MATERIALS INVENTORY FORM

Project Number: GRMNP24004 Page 1 of

Site: Inspector: Ricky

Building: Norristown Public Library Reviewed By: Tom Adams

Floor: 2nd, Date: 6/3/24 /6/4/24

Type	Fluorescent Bulbs	Count
2 ft	2+4	
4 ft	30+16+18+14+16+4+4+4+100+16+8+60	
8 ft / other		
CFL Bulbs		
Mercury bulbs	3	
Type	**Ballast (PCB containing)**	**Count**
2 ft	1+1	
4 ft	~~30+~~ 20+15+8+2+2+32+3+2+40	
8 ft / other		
Ushape	9+10+3	
	Emergency Batteries/ Lights	**Count**
	2	
	Mercury Thermostat Switches	**Count**
	Smoke Detectors	**Count**
	4+4+5+1+1+8+1+2+1+16	
Type	**Transformers**	**Count**
Dryed	1	
Oil filled		
Type	**Ozone Depleting Substances/ Equipment**	**Count**
AC Units		
Refrig/ Freezer		
Cooler/ Fountains		
Freon tanks		
Other		
Type	**Other Substances/ Equipment**	**Count**
Lead-Acid Batteries	2	
Stored Chemicals		
Diesel Gen	1	
	NOTES	

Elevator Cars
Ushape bulbs (18)(32)(6)

HAZARDOUS MATERIALS INVENTORY FORM

Project Number: GRMNP24007 Page 2 of

Site: Inspector: Rob Ey

Building: Norristown Public Library Reviewed By: Jeremy Hunt

Floor: 2 Date: 6/4/24

Type	Fluorescent Bulbs	Count
2 ft		
4 ft	20+20+8+16+32	
8 ft / other		
CFL Bulbs	46	
Type	**Ballast (PCB containing)**	**Count**
2 ft		
4 ft	5+1+5+4+8+8	
8 ft / other		
	Emergency Batteries/ Lights	**Count**
	Mercury Thermostat Switches	**Count**
	Smoke Detectors	**Count**
	1+2+1+10	
Type	**Transformers**	**Count**
Dryed		
Oil filled		
Type	**Ozone Depleting Substances/ Equipment**	**Count**
AC Units		
Refrig/ Freezer		
Cooler/ Fountains		
Freon tanks		
Other		
Type	**Other Substances/ Equipment**	**Count**
Lead-Acid Batteries		
Stored Chemicals		
	NOTES	

APPENDIX I

PCB Laboratory Analytical Certificates

EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

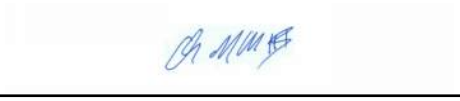
July 19, 2024

Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 7/5/2024. The results are tabulated on the attached pages for the following client designated project:

Norristown Public Library

The reference number for these samples is EMSL Order #: AC22313 . Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact the lab at 856-858-4800.



Owen McKenna Laboratory Manager or other approved signatory

Table of Contents

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Certifications	21
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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Condition on Receipt

Cooler ID: Default Cooler **Temperature:** **°C**

Custody Seals	Y
Containers Intact	Y
COC/Labels Agree	Y
Preservation Confirmed	Y

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. All results for soil samples are reported on a dry weight basis, unless otherwise noted.

EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library
Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
AC22313-01	PCB-3-1	Solid	07/05/2024	07/05/2024
AC22313-02	PCB-6-1	Solid	07/05/2024	07/05/2024
AC22313-03	PCB-7-1	Solid	07/05/2024	07/05/2024
AC22313-04	PCB-21-1	Solid	07/05/2024	07/05/2024
AC22313-05	PCB-33-1	Solid	07/05/2024	07/05/2024
AC22313-06	PCB-34-1	Solid	07/05/2024	07/05/2024
AC22313-07	PCB-38-1	Solid	07/05/2024	07/05/2024
AC22313-08	PCB-39-1	Solid	07/05/2024	07/05/2024
AC22313-09	PCB-40-1	Solid	07/05/2024	07/05/2024
AC22313-10	PCB-46-1	Solid	07/05/2024	07/05/2024
AC22313-11	PCB-49-1	Solid	07/05/2024	07/05/2024

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Positive Hits Summary

Lab ID	Client ID				Sampled
AC22313-01	PCB-3-1				07/05/24 00:00
Method	Analyte	Result	Qualifier	Unit	Analyzed
SW846-8082A	Aroclor-1248	2.7		mg/kg	07/15/2024 17:56

Lab ID	Client ID				Sampled
AC22313-03	PCB-7-1				07/05/24 00:00
Method	Analyte	Result	Qualifier	Unit	Analyzed
SW846-8082A	Aroclor-1248	5.8		mg/kg	07/15/2024 18:39

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EMSL Analytical, Inc.

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Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Results

Sample: PCB-3-1
AC22313-01 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	**2.7**		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A

Surrogate(s)	Recovery	Q	Limits					
Surrogate: Tetrachloro-m-xylene	*67%*		*10-112*	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*69%*		*10-123*	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	*SW846-8082A*

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Results
(Continued)

Sample: PCB-6-1
AC22313-02 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*55%*			*10-112*		07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*53%*			*10-123*		07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	*SW846-8082A*

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library
Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Results
(Continued)

Sample: PCB-7-1
AC22313-03 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	**5.8**		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*47%*			*10-112*		07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*49%*			*10-123*		07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	*SW846-8082A*

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Results
(Continued)

Sample: PCB-21-1
AC22313-04 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*54%*			*10-112*		07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*57%*			*10-123*		07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	*SW846-8082A*

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EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

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Project Name: Norristown Public Library

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Sample Results
(Continued)

Sample: PCB-33-1
AC22313-05 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*73%*			*10-112*		07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*73%*			*10-123*		07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-34-1
AC22313-06 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*70%*			*10-112*		07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*79%*			*10-123*		07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-38-1
AC22313-07 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*40%*			*10-112*		07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*47%*			*10-123*		07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-39-1
AC22313-08 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*35%*			*10-112*		07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*37%*			*10-123*		07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-40-1
AC22313-09 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*37%*			*10-112*		07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*33%*			*10-123*		07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-46-1
AC22313-10 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*85%*			*10-112*		07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*83%*			*10-123*		07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-49-1
AC22313-11 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*70%*			*10-112*		07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*68%*			*10-123*		07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	*SW846-8082A*

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Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Quality Control

GC-SVOA

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0831 - SW846 3540C										
Blank (BCG0831-BLK1)					Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*81*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*81*	*10-123*		
Blank (BCG0831-BLK2)					Prepared: 7/9/2024 Analyzed: 7/11/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*70*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*73*	*10-123*		
LCS (BCG0831-BS1)					Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	3.87		0.25	mg/kg	5.000		77	23-111		
Aroclor-1260	4.10		0.25	mg/kg	5.000		82	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*80*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*77*	*10-123*		

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Quality Control
(Continued)

GC-SVOA (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0831 - SW846 3540C (Continued)										
LCS (BCG0831-BS2)					Prepared: 7/9/2024 Analyzed: 7/11/2024					
Aroclor-1016	3.49		0.25	mg/kg	5.000		70	23-111		
Aroclor-1260	3.72		0.25	mg/kg	5.000		74	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*70*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*69*	*10-123*		
Matrix Spike (BCG0831-MS1)			**Source: AC21780-01**		Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	4.18		0.25	mg/kg	4.950	ND	84	10-111		
Aroclor-1260	4.31		0.25	mg/kg	4.950	ND	87	10-132		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.4950*		*88*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.4950*		*79*	*10-123*		
Matrix Spike Dup (BCG0831-MSD1)			**Source: AC21780-01**		Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	4.16		0.25	mg/kg	4.926	ND	84	10-111	0.4	28
Aroclor-1260	4.20		0.25	mg/kg	4.926	ND	85	10-132	3	28
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.4926*		*84*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.4926*		*79*	*10-123*		
Batch: BCG1153 - SW846 3540C										
Blank (BCG1153-BLK1)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*66*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*76*	*10-123*		

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EMSL Customer ID: PENN50

Attention: Thomas Adams
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515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Quality Control
(Continued)

GC-SVOA (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG1153 - SW846 3540C (Continued)										
Blank (BCG1153-BLK2)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*53*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*65*	*10-123*		
LCS (BCG1153-BS1)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	3.74		0.25	mg/kg	5.000		75	23-111		
Aroclor-1260	4.11		0.25	mg/kg	5.000		82	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*67*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*80*	*10-123*		
LCS (BCG1153-BS2)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	2.90		0.25	mg/kg	5.000		58	23-111		
Aroclor-1260	3.30		0.25	mg/kg	5.000		66	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*51*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*63*	*10-123*		
LCS Dup (BCG1153-BSD1)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	3.61		0.25	mg/kg	5.000		72	23-111	3	25
Aroclor-1260	4.00		0.25	mg/kg	5.000		80	29-119	3	25
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*66*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*78*	*10-123*		

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Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
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Reported: 07/19/2024 16:46

Certified Analyses included in this Report

Analyte	CAS #	Certifications
SW846-8082A in Solid		
Aroclor-1016	12674-11-2	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1221	11104-28-2	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1232	11141-16-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1242	53469-21-9	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1248	12672-29-6	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1254	11097-69-1	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1260	11096-82-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1260 [2C]	11096-82-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1262	37324-23-5	NJDEP,NYSDOH,PADEP
Aroclor-1268	11100-14-4	NJDEP,NYSDOH,PADEP

List of Certifications

Code	Description	Number	Expires
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2024
NYSDOH	New York State Department of Health	10872	04/01/2025
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2024
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2024
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2024
California ELAP	California Water Boards	1877	06/30/2024
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2024

Please see the specific Field of Testing (FOT) on www.emsl.com <http://www.emsl.com> for a complete listing of parameters for which EMSL is certified.

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Project Name: Norristown Public Library
Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
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Notes and Definitions

Item	Definition
D	Analyte was reported from a dilution run.
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
Q	Qualifier
RL	Reporting Limit
Wet	Sample is not dry weight corrected.
%REC	Percent Recovery
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.

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Environmental Chemistry Chain of Custody

EMSL ANALYTICAL, INC.

EMSL Order Number / Lab Use Only: AC22313 1 of 2

EMSL Analytical, Inc.
200 Rt. 130 N
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: EnvChemistry2@EMSL.com

Customer Information

Customer ID: PENNOSD
Company Name: PENNONI
Contact Name: THOMAS ADAMS
Street Address: 505 BRIDGE STE. SUITE 1B
City, State, Zip: HADDON HEIGHTS NJ. Country:
Phone:
Email(s) for Report: TADAMS@PENNONI.COM

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Name/No: NORRISTOWN PUBLIC LIBRARY GRMNP24004
Purchase Order: 10

EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: PA
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)

Samples for Compliance? ☐ Yes ☒ No If Yes, for NPDES? ☐ Yes ☒ No
Other (Specify)
PWS ID:
State Reporting Required? ☐ Yes ☐ No

Samples Collected by (Check One): ☐ EMSL ☐ CLIENT
Samples Received Chilled? ☐ Yes ☐ No
Sample(s) Temperature Upon Receipt (LAB ONLY)

Sampled By Name: TADAMS
Sampled By Signature:
No. of Samples in Shipment:

Turn-Around-Time (TAT) Standard Turn-Around-Time: ☒ 2 Weeks
The following TAT's are subject to Lab approval. Call lab to confirm TAT before submittal: ☐ 1 Week ☐ 4 Days ☐ 3 Days ☐ 2 Days ☐ 1 Day

	Client Sample ID	Comp	Grab	Date / Time Collected	Matrix (W=Water S=Soil A=Air SL=Sludge O=Other)	Preservative (1 HCL 2 HNO3 3 H2SO4 4 ICE 5 Other — Describe below in Special Instructions)	Test 1: SW-846-3540C/3546/8082A	Test 2:	Test 3:	Test 4:	Test 5:	Test 6:	Test 7:	Test 8:	Comments
1	PCB-3-1		X	7/5/24	O		X								
2	" -6-1		X	"	"		X								
3	" -7-1		X	"	"		X								
4	" -21-1		X	"	"		X								

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

3540.

Reporting Requirements: ☒ Results Only ☐ Results and QC ☐ Reduced Deliverables ☐ Hzresults EDD ☐ Excel ☐ Other (Describe Above)

Method of Shipment: DROP off
Sample Condition Upon Receipt:
Received on Ice? Check if Yes: ☐

Relinquished by: TADAMS Date/Time: 7/3/24
Received by: CMT Date/Time: 7/3/24 12pm

Relinquished by: Date/Time:
Received by: Date/Time: 7/05/24 12:30pm.

☐ I AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

Environmental Chemistry Chain of Custody

EMSL ANALYTICAL, INC.

EMSL Order Number / Lab Use Only

AC22313

EMSL Analytical, Inc.
200 Rt. 130 N
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: EnvChemistry2@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

2ndz

	Client Sample ID	Comp	Grab	Date / Time Collected	Matrix (W=Water, S=Soil, A=Air, SL=Sludge, O=Other)	Preservative (1 HCL, 2 HNO3, 3 H2SO4, 4 ICE, 5 Other – Describe below in Special Instructions)	List Test(s) Needed (Write in test below, then check on sample line:) Test 1:	Test 2:	Test 3:	Test 4:	Test 5:	Test 6:	Test 7:	Test 8:	Comments
							SAME AS PAGE #1								
5	PCB-33-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
6	11-34-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
7	11-38-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
8	11-39-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
9	11-40-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
10	11-46-1	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	
11	11 49-1	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	

Method of Shipment: Drop off		Sample Condition Upon Receipt:	Received on Ice? Check if Yes: ☐
Relinquished by: TA Stamos	Date/Time: 7/5/24	Received by: Phuc VS	Date/Time 7/5/24 1210
Relinquished by:	Date/Time:	Received by:	Date/Time 7/05/24 12:30pm

Controlled Document - COC-07 Chemistry R12 11/07/2023

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

APPENDIX B

Norristown Public Library
Site Plans

The latest demo drawings from the architect will be included in bid documents.

TECHNICAL SPECIFICATIONS

Norristown Public Library
1001 Powell Street
Norristown, Pennsylvania



Prepared for:

Mr. Frank Summa, P.E.
Greenman-Pedersen, Inc.
52 Glenmaura National Boulevard
Suite 302
Scranton, PA 18507

Project No. GRMNP24004

September 19, 2024
Revised October 31, 2025

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

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ROOFING SUMMARY OF KEY PROVISIONS OF OSHA AND EPA		APPENDIX C

END OF SECTION

PROJECT DIRECTORY

PROJECT NAME:	Asbestos Abatement Norristown Public Library
PROJECT LOCATION:	Norristown Public Library 1001 Powell Street Norristown, PA 19401
BUILDING OWNER:	Montgomery County, PA Contact: Meera Ponnappa, Project Manager, Capital Projects
ASBESTOS MONITORING FIRM:	Pennoni Associates, Inc. 515 Grove Street, Suite 1B Haddon Heights, New Jersey 08035 Contact: Jeremy Humble PA Project Designer #054974 (856) 547-0505 Office
DATE OF CONTRACT DOCUMENTS:	September 19, 2024 *Revised November 11, 2024, August 20, 2025, and October 31, 2025*

SECTION 01013

SUMMARY OF WORK

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 PROJECT/WORK IDENTIFICATION

A. The Project name is Asbestos Abatement – Norristown Public Library – Norristown, PA.

Site locations are as follows:

Norristown Public Library
1001 Powell Street
Norristown, PA

The contract documents have been prepared by the Owner's Environmental Consultant, Pennoni Associates Inc., and are dated November 11, 2024, revised August 20, 2025 and October 31, 2025.

Greenman-Pedersen, Inc. is requesting the following asbestos abatement at the above referenced address:

- The scope of the project includes the complete removal and off-site disposal of identified asbestos-containing materials during two phases of the renovation project. The asbestos-containing materials based on original renovation design are summarized in the summary tables in 3.4 of this Section. The tables are provided to supply Contractors with estimated quantities and information to aid in the bidding process. The tables shall in no way limit the scope of work. The Contractor shall be responsible to fully investigate the scope of work and provide a bid proposal based on all existing conditions.

- Contractor shall remove floor tile, associated mastic, and black cement window sills utilizing full containment or non-friable methods.

- Contractor shall remove pink sink undercoating, roofing materials (field, flashing, seam tar and pitch pocket), exterior concrete wall expansion caulk, air handler caulk and duct seam caulk using non-friable methods.

- The scope includes limited demolition of building materials for removal access.

- Contractor shall provide electrical, and water sources required to conduct all abatement activities and scope of work as outlined in the specification.

- Contractor shall also be responsible for the proper identification, quantification, removal and off-site disposal of Universal Wastes/Hazardous Materials within the facility, such as, but not limited to: fluorescent light tubes, fluorescent light fixture ballasts, emergency light batteries, mercury containing switches and thermostats, stored chemicals, exterior transformers and associated oils. Attached is the environmental building survey report prepared for the project in Appendix A. The Universal Waste/Hazardous Material inventory is an estimated inventory and actual quantities shall be the responsibility of the contractor to determine disposal costs

in their bid. Contractor shall submit all waste shipment records and waste manifests to the General Contractor. Universal Wastes/Hazardous Materials shall be staged within the facility in a single location and properly packaged for removal, manifesting and proper disposal. The materials shall be placed on a 6 mil thick polyethylene sheet for inventory prior to disposal.

B. Section 3.4 - Summary of Work, provides estimated quantities of asbestos-containing materials to be removed. The Contractor is responsible to determine exact quantities of asbestos-containing materials and scope of work as outlined in the specification and prior to the submission of their bid.

C. Contract Documents: Indicate the work of the Contract and related requirements and conditions that have an impact on the project. Related requirements and conditions that are indicated on the Contract Documents include, but are not necessarily limited to the following:

1. Applicable codes and regulations
2. Notices and permits
3. Existing site conditions and restrictions on use of the site
4. Work performed prior to work under this Contract
5. Alterations and coordination with existing work
6. Work to be performed concurrently by the Owner
7. Work to be performed concurrently by separate contractors
8. Work to be performed subsequent to work under this Contract
9. Alternates
10. Allowances

D. Summary by References: Work of the Contract can be summarized by references to the Contract, General Conditions, Supplementary Conditions, Specification Sections, addenda and modifications to the contract documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.

E. General and Administrative Requirements are set forth in the following specification sections:

1. 01013 SUMMARY OF THE WORK
2. 01043 PROJECT COORDINATION
3. 01091 DEFINITIONS AND STANDARDS
4. 01301 SUBMITTALS

F. Abatement Work requirements are set forth in the following specification sections, listed here according to the sequence of the work:

1. 01092 CODES, REGULATIONS, AND STANDARDS - Sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.
2. 01503 TEMPORARY FACILITIES - Sets forth the support facilities needed such as electrical and plumbing connections for the decontamination units and office space for the Industrial Hygienist.

3. 01526 TEMPORARY ENCLOSURES - Details the requirements for the sheet plastic barriers isolating the work area from the balance of the building.
4. 01410 AIR MONITORING - Describes air monitoring by Owner's Environmental Consultant so that the building beyond the work area will remain uncontaminated. Air monitoring to determine required respiratory protection is the responsibility of the Contractor.
5. 01513 TEMPORARY PRESSURE DIFFERENTIAL & AIR FILTRATION SYSTEM - Sets forth the procedures to set up the air filtration units and ventilation of the work area.
6. 01560 WORKER PROTECTION - Sets forth the procedures and equipment for adequate worker protection.
7. 01562 RESPIRATORY PROTECTION - Sets forth the procedures and equipment required for adequate protection against inhalation of airborne asbestos fibers.

G. Asbestos Removal Work Procedures are described in the following specification sections:

1. 02081 REMOVAL OF ASBESTOS
2. 02084 DISPOSAL OF ASBESTOS-CONTAINING WASTE MATERIAL

H. Decontamination of the Work Area after completion of abatement work is described in the following sections:

1. 01711 PROJECT DECONTAMINATION - Describes the sequence of cleaning and decontamination procedures to be followed during removal of the sheet plastic barriers isolating a work area.
2. 01714 WORK AREA CLEARANCE - Describes the analytical methods used to determine if the work area has been successfully cleaned of contamination.

1.3 PROJECT COORDINATION

A. The Asbestos Contractor shall coordinate all Asbestos Abatement work with the Environmental Consultant in accordance with Section 01043 – Project Coordination.

B. The Asbestos Contractor shall not perform any work in the absence of the Environmental Consultant’s Industrial Hygienist, who shall decide in his absolute discretion as to the meaning and applicability of any part of the Asbestos Abatement Specification.

1.4 INSPECTION

A. Prior to commencement of work, the Contractor shall inspect areas in which work will be performed. Prepare a listing of damages to structure, surfaces, equipment or surrounding properties, which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary, to document conditions. Submit to Environmental Consultant prior to starting work.

1.5 POTENTIAL ASBESTOS HAZARD

A. The disturbance or dislocation of asbestos-containing materials may cause asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the jobsite of the seriousness of the hazard and of proper work procedures, which must be followed.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified asbestos-containing materials, take appropriate continuous measures as necessary to protect all building occupants from the potential hazard 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 STOP WORK

A. If the Owner or Environmental Consultant presents a written stop work order, immediately and automatically stop all work. Do not recommence work until authorized in writing by Environmental Consultant.

1.7 ASBESTOS-CONTAINING MATERIALS

A. The following asbestos-containing materials are to be removed as part of this scope of work. If any other materials are found, which are suspected of containing asbestos (i.e. floor tile, pipe insulation, pipe fittings, etc.), notify the Environmental Consultant immediately both verbally and in writing. Do not proceed with any additional work without written approval. The summary tables of materials, estimated quantities and locations of asbestos materials to be removed based on original renovation design is also included under 3.4 of this Section.

1. Air handler caulk
2. Duct seam caulk
3. 12”x12” tan and gray marble floor tile and mastic
4. Mastic associated with non-ACM 12”x12” white and gray marble floor tile
5. Mastic associated with non-ACM 12”x12” gray and brown marble floor tile
6. Black cement window sill, two sizes
7. Pink sink undercoating
8. Mastic associated with 12”x12” tan flake floor tile
9. Roof seam tar
10. Exterior concrete wall expansion caulk

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 OWNER OCCUPANCY

A. The building will be **occupied by other trades** during abatement activities. Cooperate fully with other personnel that may be working at the site. Perform all work so as not to interfere with other personnel.

B. All Asbestos Abatement work shall be performed in accordance with these specifications, and all federal, state and local regulations, as applicable.

3.2 CONTRACTOR USE OF PREMISES:

A. Use of the Site: Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction.

1. Keep existing driveways and entrances serving the premises clear and available to the Owner at all times. Do not use these areas for parking or storage of materials.
2. Do not unreasonably encumber the site with materials or equipment.
3. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place or accessible to unauthorized persons.

B. Contractor's Use of the Existing Building(s): Maintain existing building(s) in a safe and weather tight condition throughout the construction period.

1. Smoking or open fires will not be permitted within the building.
2. Keep means of egress clear of rubbish, construction materials and asbestos waste.
3. The use of existing toilets within the building will be allowed at the Owner's discretion.

3.3 WORK TO BE PERFORMED BY OTHERS:

A. The Owner will coordinate with the Contractor to facilitate shut down, blanking off and lockout of all HVAC, electrical, mechanical and security equipment and systems located within and/or servicing the work area(s) as feasible.

3.4 SUMMARY OF WORK

A. The scope of the project includes the complete removal and off-site disposal of identified asbestos-containing materials. The asbestos-containing materials will be conducted into two phases and are summarized in the following summary tables. The tables are provided to supply Contractors with information to aid in the bidding process. The tables shall in no way limit the scope of work. The Contractor shall be responsible to fully investigate the scope of work and provide a bid proposal based on all existing conditions. Quantities listed in the tables are only estimates. Contractor is responsible to verify quantities.

Table 1A – Identified and Assumed Asbestos-Containing Materials – Phase 1
Norristown Public Library
1001 Powell Street
Norristown, PA 19401

Homogenous No. and Material	Location	Approx. Quantity	Type	Percentage	Condition
6. Air Handler Caulk	2nd Floor, Mechanical Room 222	500 SF	Chrysotile	5%	Good
	Total	**500 SF**			
7. Duct Seam Caulk	2nd Floor, Mechanical Room 222	1,000 SF	Chrysotile	3%	Good
	Total	**1,000 SF**			

Table 1A – Identified and Assumed Asbestos-Containing Materials – Phase 1 Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
14. 12"x12" Tan and Gray Marble Floor Tile and Mastic	2nd Floor, Hallway 227	800 SF	Chrysotile	Floor Tile – 5% Mastic – 5%	Good
	2nd Floor, Storage 226 #1	345 SF			Good
	2nd Floor, Storage 225	128 SF			Good
	2nd Floor, Closed Stacks 215	4,500 SF			Good
	Stair #3	180 SF			Good
	2nd Floor, Storage 208	60 SF			Good
	Stair #2 (storytelling storage)	144 SF			Good
	Stair #2 Exit	150 SF			Good
	1st Floor, Janitor's Closet 111	75 SF			Good
	Stair #4	300 SF			Good
	1st Floor, Community Room	2,400 SF			Good
	Total	**8,362 SF**			
15. Mastic associated with non-ACM 12"x12" White and Gray Marble Floor Tile	2nd Floor, Hallway 227	50 SF	Chrysotile	Mastic - 6% Floor Tile - NAD	Good
	2nd Floor, Storage 225	1 SF			Good
	2nd Floor, Kitchen, Room 210-216	10 SF			Good
	1st Floor, Employee Lounge	40 SF			Good
	1st Floor, Computer Room 128/122	480 SF			Good
	Total	**581 SF**			
16. Mastic associated with non-ACM 12"x12" Gray and Brown Marble Floor Tile	2nd Floor, Hallway 227	190 SF	Chrysotile	Mastic - 2% Floor Tile - NAD	Good
	Total	**190 SF**			
23. Black Cement Window Sill, Two Sizes	2nd Floor, Children's Stall 203	65 SF	Chrysotile	15%	Good
	2nd Floor, Storytelling	40 SF			Good
	Stair #2 (storytelling storage)	6 SF			Good
	2nd Floor, Work Room 210/Storage 213	9 SF			Good
	2nd Floor, Conference Room 214	6 SF			Good
	2nd Floor, Hallway	40 SF			Good
	1st Floor, Main Library and Office	400 SF			Good
	1st Floor, Employee Lounge	35 SF			Good
	1st Floor, Hall 114	5 SF			Good
	1st Floor, ILL Room 125	6 SF			Good
	1st Floor, Technical Processing 119 and Office 118	30 SF			Good
	1st Floor, Storage 124	4 SF			Good
	1st Floor, Extension Room 123	12 SF			Good

Table 1A – Identified and Assumed Asbestos-Containing Materials – Phase 1 Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
	Total	**658 SF**			
29. Pink Sink Undercoating	1st Floor, Employee Lounge	6 SF	Chrysotile	3%	Good
	1st Floor, Community Room Kitchen	6 SF			Good
	Total	**12 SF**			
36. Mastic associated with 12"x12" Tan Flake Floor Tile	Elevator (lobby, back hall, main library)	50 SF	Chrysotile	Mastic – 2% Floor Tile - NAD	Good
	Total	**50 SF**			

Table 1B – Identified and Assumed Asbestos-Containing Materials – Phase 2 Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
43. Roof Seam Tar (Silver Paint Layer)	Lower Roof, L-Shape	100 SF	Chrysotile	2-3%	Good
	Upper Roof	300 SF			Good
	Total	**400 SF**			
46. Exterior Concrete Wall Expansion Caulk	Exterior of Building	50 SF	Chrysotile	2%	Good
	Total	**50 SF**			

B. The Contractor shall:

1. Make all required notifications, obtain all permits and pay all fees associated with the work.
2. Remove all identified asbestos-containing materials in strict accordance with all applicable federal, state and local regulations and this specification.
3. Dispose of all asbestos-containing materials in strict accordance with applicable codes and regulations and this specification.
4. Coordinate with the Facilities Manager for the shutdown, blanking off and lockout all HVAC, electrical, mechanical and security equipment and systems located within and/or servicing the work area locations where feasible.
5. Provide personnel and waste decontamination facilities. The Contractor shall be responsible to make all connections and disconnections to existing electrical panels and water sources. The Contractor shall provide the necessary equipment to supply the decontamination unit with hot water.
6. Vent all HEPA-equipped air filtration units to the exterior of the building. The Contractor shall remove doors and/or windows as required and construct plywood manifold systems to allow for exhaust ducts to run to the building exterior.
7. Install scaffolding as necessary to access the work.
8. Remove and dispose of asbestos-containing materials described herein.
9. Clean and decontaminate the work areas as per this specification.
10. Route all waste directly to the secured dumpster/truck.
11. Coordinate the location of dumpsters with the Environmental Consultant. All asbestos

dumpsters shall be the enclosed lockable type and shall be kept locked when left unattended.

12. The Contractor shall be required to achieve the post abatement, air monitoring clearance criteria as specified in Section 01714, Work Area Clearance.

C. ACM Roofing:
   1. If the asbestos-containing roofing material remains in a non-friable state, EPA does not require notification for removal of materials that are removed using proper work practices (no power roof cutters). Removal of this material does not require the use of licensed asbestos abatement workers.
   2. OSHA 29 CFR 1926.1101 does have specific training, assessment, work practice, and employee notification requirements under (g)(8) and (g)(11).
   3. These work practices include practices such as:
      a. a competent person assessing the hazard and selecting control methods
      b. use of properly trained employees
      c. use of respiratory protection if a negative exposure assessment is not completed
      d. removing materials in an intent state to the extent possible
      e. wetting the materials
      f. wetting and bagging any resulting dust and debris
      g. carefully lowering the material to the ground
      h. transferring to a closed receptacle and
      i. isolating or shutting down roof level heating and ventilation intake sources

3.5 SCHEDULE

The following schedule shall govern work of this contract:

Schedule to be determined.

END OF SECTION

SECTION 01043

PROJECT COORDINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUMMARY:

A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
   1. Notifications.
   2. Permits and Fees.
   3. Administrative and supervisory personnel.
   4. Pre-Construction meeting.
   5. Progress Meetings.
   6. Documentation required at work site.
   7. Coordination of Subcontractors and other trades.
   8. Requirements for the Contractor's Construction Schedule are included in Section “Submittals”.

1.3 NOTIFICATIONS:

A. The Contractor shall make all required notifications associated with his contract to include, but not limited to those listed in Section 01902 Codes, Regulations and Standards.

1.4 PERMITS AND FEES:

A. The Contractor shall obtain all required Permits, and pay all fees associated with his contract to include, but not limited to those listed in Section 01092 Codes, Regulations and Standards.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL:

A. General Superintendent: Provide on a twenty-four hour a day on call basis, a General Superintendent who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc. This person is the Competent Person as required by OSHA in 29 C.F.R. 1926 for the Contractor and is the Contractor's Representative's responsible for compliance with all applicable Federal, State, and Local Regulations, and this specification. This person shall have completed a course at an E.P.A. Training Center or an equivalent certified course in asbestos abatement procedures and have had a minimum of three years of on-the-job training and meet any additional requirements set forth in 29 C.F.R. 1926 for a Competent Person and this specification. The responsibilities of the General Superintendent shall include but not be limited to the following:

   1. The General Superintendent shall submit special reports directly to the Owner within one day of occurrence. A copy shall be submitted to the Owner's Representative, Project Consultants, and others affected by the occurrence.

   2. When an event of unusual and significant nature occurs at the site (e.g. failure of negative

pressure system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise the Owner in advance at the earliest possible date.

B. Project Supervisor: Provide a full-time Project Supervisor who is certified and fully knowledgeable in the use of equipment and situations unique to that worksite. A separate individual shall be required to fulfill this function for each work shift that exceeds ten hours within any twenty-four-hour period. The responsibilities of the Project Supervisor shall include but not be limited to the following:

1. Ensure that the individuals are wearing all proper personal protective equipment as outlined in Sections 01560 - 01562 of this specification and are trained in their use.

2. Ensure that precautions have been taken to prevent heat stress and other emergencies from occurring (e.g. selecting light-weight protective clothing, reducing the work rate, and providing adequate fluid breaks).

1.6 PRE-CONSTRUCTION MEETING:

A. The Contractor shall attend pre-construction meeting(s) scheduled by the Environmental Consultant. These meetings shall be attended by the Owner and/or the Owner's Representative, and the Contractor’s OSHA Monitoring Firm. At this meeting, the Contractor shall present in detail the following:

1. A detailed plan for preparation of each work area.
2. Description of protective clothing and approved respirators (by NIOSH and the Project Consultants) to be used.
3. Delineation of responsibility of work site isolation.
4. Explanation of the decontamination sequence.
5. Description of all removal methods to be used.
6. Explanation of the handling of asbestos-contaminated waste.
7. Proof of workers' medical exams substantiated by reports signed by the physician.
8. Description of the final clean up procedures to be used.
9. Proposed waste disposal site and proof of transporter registration. If a change in either of these items occurs during the course of the project, the Contractor shall notify the Environmental Consultant.
10. A sample of the waiver form to be used for all authorized visitors to the site.
11. Explanation of air filtration systems to be used for personnel protection, building protection, and environmental protection.
12. List of equipment on hand or to be obtained, how to be used, and the operation of each to include impact on the personnel, building environmental, and work environment.
13. Plan of action in the event of an emergency (Asbestos Spill Plan, fire routes, etc.).
14. A Detailed Work Schedule, with start and completion dates for all phases of asbestos abatement, to include, but not limited to, Worksite Preparation, Pre-inspection, Removal, Clean-up, Pre-encapsulation Inspection, Encapsulation, Clean-up Inspection, Final Cleaning, Disposal, Final Inspection, Post-testing, Analysis and Post State Inspection.

B. The Quality Assurance Air Monitoring Firm shall present in detail an explanation of air monitoring procedures to be used on behalf of the Owner. The Contractor (or independent air monitoring laboratory employed on his behalf) shall present in detail how compliance with OSHA monitoring requirements shall be fulfilled.

C. Asbestos work shall not proceed until the Owner, Environmental Consultant, and the Contractor agree on the details listed in this article.

1.7 PROGRESS MEETINGS:

A. The Contractor shall attend prescheduled Progress Meetings. These shall be scheduled by the Environmental Consultant. These meetings shall also be attended by Owner's Representative and the Environmental Consultant. Any such meetings shall serve to update all items discussed in the Pre-Construction meeting.

1.8 DOCUMENTATION REQUIRED AT WORK SITE:

A. One copy of each regulation cited in Section 01092 shall be available in the Contractor's business office and one copy of each shall be maintained in view at the job site.

B. The Contractor shall display copies of the required letters of Notification, Permits, and Variances.

C. Additional documentation required of the Contractor and to be available at the job site shall include:

1. List of emergency telephone numbers to include:
   a. The Environmental Consultant and Industrial Hygienist.
   b. E.P.A.
   c. O.S.H.A.
   d. D.E.P.
   e. D.O.H.
   f. Fire Department.
   g. Police Department.
   h. Local Hospital.
   i. Emergency Squad.
   j. DCA Asbestos Safety Unit.
   k. Contractors Project Supervisor and General Superintendent.

2. The Contractor shall establish written work area emergency procedures and shall have such procedures posted in view and also inside each work area. In case of an emergency, decontamination procedures shall not impede emergency procedures.
3. List or personnel including all new employees.
4. A Daily Log of all persons entering the work area, including all visitors. The Log shall include the full name and certification number of all employees, and the time when they enter and exit the work area. Non-employees of the Asbestos Contractor shall be required to sign an acceptable waiver form. The waiver form shall be approved by the Environmental Consultant.
5. The Daily Log shall include a record of start and stop times, any work area problems encountered, any corrective action, and estimated amount of asbestos waste generated.
6. The Contractor shall be responsible for obtaining a copy of the daily monitoring logs from their air testing firm and maintaining this with the Daily Log at the job site.

7. Copies of Daily Log forms shall be given to the Environmental Consultant at the end of each week's work.

D. Work schedules and updated progress charts depicting all phases of work and completion deadlines.

E. Copy of Waste Hauler's Certificate and copy of all landfill receipts.

1.9 COORDINATION OF SUBCONTRACTORS AND OTHER TRADES:

A. The Contractor shall work in complete cooperation and coordination with any Subcontractors or any other trades that may be involved in other work within or related to the site.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01091

DEFINITIONS AND STANDARDS

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 SUMMARY:

A. General Explanation: A substantial amount of specification language constitutes definitions for terms found in other contract documents, including the drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated thereon.) Certain terms used in Contract Documents are defined in this article.

B. General Requirements: The provisions or requirements of Division-1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.

1.3 GENERAL DEFINITIONS:

A. Definitions contained in this Article are not necessarily complete but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.

1. Building Owner: The person in whom legal title to the premises is vested unless the premises are held in land trust, in which instance the Building Owner means the person in whom beneficial title is vested.
2. Contractor: A public authority or any other governmental agency or instrumentality thereof, self-employed person, company, unincorporated association, firm, partnership, or corporation and any owner or operator thereof, which engages in an asbestos project or employs persons engaged in an asbestos project.
3. Indicated: This term refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
4. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Owner Representative", "requested by the "Owner's Representative", and similar phrases. However, no implied meaning shall be interpreted to extend the Owner's Representative's responsibility into the Contractor's area of construction supervision.
5. Approve: The term "approved," where used in conjunction with the Owner Representative's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Architect stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract Document requirements, unless otherwise provided in the Contract Documents.
6. Regulation: The term "Regulations" includes laws, statutes, ordinances and lawful orders issued by authorities having jurisdiction, as well as rules, conventions and agreements within the construction industry that control performance of the Work, whether they are lawfully imposed by authorities having jurisdiction or not.

7. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations.
8. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations."
9. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
10. Installer: An "Installer" is an entity engaged by the Contractor, either as an employee, subcontractor or sub-subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
11. The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this project, and familiar with the precautions required, and has complied with requirements of the authority having jurisdiction.
12. Project Site is the space available to the Contractor for performance of the work, either exclusively or in conjunction with others performing other construction as part of the project. The extent of the project site is shown on the Drawings.
13. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the project site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.
14. Owner's Representative: This is the entity described as the "Architect" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." All references to Architect or Engineer in the Contract Documents in all cases refer to the Owner's Representative. The Owner's Representative will represent the Owner during construction and until final payment is due. The Owner's Representative will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Owner's Representative.
15. Project Administrator: This is the entity described as the "Project Representative" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." The Project Administrator is a full time representative of the Owner at the job site with authority to stop the work upon verbal order if requirements of the Contract Documents are not met, or if in the sole judgement of the Project Administrator, Owner's Representative, Owner, the interests of the Owner, safety of any person or the Owner's property are jeopardized by the work.
16. General Superintendent: This is the Contractor's Representative at the work site. This person will generally be the Competent Person required by OSHA in 29 CFR 1926.

1.4 DEFINITIONS RELATIVE TO ASBESTOS ABATEMENT:

A. Definitions:

1. Abatement: Any and all procedures physically taken to control fiber release from asbestos-containing materials. This includes removal, encapsulation, enclosure and repair.
2. Abatement Activities: All activities from the initiation of work area preparation through successful clearance air monitoring performed at the conclusion of an asbestos project.
3. Accredited or Accreditation (when referring to a person or laboratory): A person or laboratory accredited in accordance with Section 206 of Title II of the Toxic Substances Control Act

(TSCA).

4. Action Level: An airborne concentration of asbestos of 0.1 fibers per cubic centimeter (f/cc) of air calculated as an eight-hour time-weighted average.
5. Aerosol: A system consisting of particles, solid or liquid, suspended in air.
6. Aggressive Sampling: A method of sampling in which the individual collecting the air sample creates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.
7. Airlock: A system for permitting entrance and exit while restricting air movement between a contaminated area and an uncontaminated area. It consists of two curtained doorways separated by a distance of at least four feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.
8. Air Cell: Insulation normally used on pipes and duct work that is comprised of corrugated cardboard which is frequently comprised of asbestos combined with cellulose or refractory binders.
9. Air Monitoring: The process of measuring the fiber content of a specific volume of air.
10. Air Sampling: The process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400, or the provisional transmission electron microscopy methods developed by the USEPA which are utilized for lower detectability and specific fiber identification.
11. Ambient Air Monitoring: Measurement or determination of airborne asbestos fiber concentrations outside but in the general vicinity of the worksite.
12. Amended Water: Water to which a surfactant has been added to decrease the surface tension to 35 or less dynes.
13. Approved Safety and Health Program: A Program certified by the Commissioner providing training in the handling and use of asbestos-containing material, and safety and health risks inherent in such handling and use, together with methods for minimizing the exposure of workers and the public to asbestos fibers, and instruction in all applicable federal, state and local laws and regulations pertaining to asbestos-related work.
14. Area Air Sampling: Any form of air sampling or monitoring where the sampling device is placed at some stationary location.
15. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebecktite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite. For purposes of determining respiratory and worker protection both the asbestiform and non-asbestiform varieties of the above minerals and any of these materials that have been chemically treated and/or altered shall be considered as asbestos.
16. Asbestos-Containing Material (ACM): Any material containing more than 1% by weight of asbestos of any type or mixture of types.
17. Asbestos-Containing Building Material (ACBM): Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
18. Asbestos-Containing Waste Material: Any material which is or is suspected of being or any material contaminated with an asbestos-containing material which is to be removed from a work area for disposal.
19. Asbestos-Contaminated Objects: Any objects which have been contaminated by asbestos or asbestos-containing material.

20. Asbestos debris: Pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.
21. Asbestos Handler: An individual who disturbs, removes, encapsulates, repairs, or encloses friable asbestos material. This individual shall have completed an approved training course and be fully certified.
22. Asbestos Handler Supervisor: An individual who supervises the handlers during an asbestos project and ensures that proper asbestos abatement procedures as well as individual safety procedures are being adhered to. This individual shall have completed approved training courses and be fully certified.
23. Asbestos Inspection Report: A report on the condition of a building or structure in relation to the presence and condition of asbestos therein.
24. Asbestos investigator: A certified individual having satisfactorily demonstrated his or her ability to identify the presence and evaluate the condition of asbestos in a building or structure.
25. Asbestos Removal Plan: A plan which will be undertaken so as to prevent asbestos from becoming airborne in the course of the alteration, renovation, modification or demolition of any building or structure.
26. Asbestos Project Inspector: An individual who is responsible for the enforcement of all applicable regulations and the project specifications for the Building Owner.
27. Asbestos Spill Plan: This is to be implemented immediately in the event of failure. This includes, but is not limited to, a HEPA vacuum, extra trash bags, mops, sponges, buckets, etc., for rapid cleanup.
28. Authorized Visitor: The Owner, the Owner's Representative, testing lab personnel, the Architect/Engineer, emergency personnel or a representative of any federal, state and local regulatory or other agency having authority over the project.
29. Barrier: Any surface that seals off the work area to inhibit the movement of fibers.
30. Baseline Monitoring: A measurement or determination of airborne asbestos fiber concentrations inside the work area and outside the building prior to starting the abatement activities.
31. Breathing Zone: A hemisphere forward of the shoulders with a radius of approximately 6 to 9 inches.
32. Calibration: The determination within specific limits of the true value of the scale reading or indication of an instrument.
33. Ceiling Concentration: The concentration of an airborne substance that shall not be exceeded.
34. Certified Industrial Hygienist (C.I.H.): An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
35. Certified Safety Person (C.S.P): An individual having a bachelor's degree from an accredited college or university and a minimum of four years of experience as a safety professional and who has successfully completed both levels of the examination administered by the Board of Certified Safety Professionals and who is currently certified.
36. Clean room: An uncontaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of workers' street clothes and protective equipment.
37. Clearance Air Monitoring: The employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers, and shall be performed as the final abatement activity.

38. Containment: An area which has been sealed with polyethylene sheeting to prevent contamination of asbestos to the outside environment.
39. Controlled Area: An area which can be separated off from occupied areas of the building for the purpose of controlling fiber release to the occupied areas of the building. This area is controlled so as to limit access and to ensure that, when accessed, all appropriate health and safety protocols are utilized.
40. Curtained Doorway: A device which consists of at least three overlapping sheets of plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached at the bottom to ensure that the sheets hang straight and maintain a seal over the doorway when not in use.
41. Decontamination Unit: A serial arrangement of rooms or spaces for the purpose of separating the work area from the building environment upon entering the work area and for the cleaning of persons, equipment, and contained waste prior to returning to the clean environment.
42. Demolition: The wrecking or taking out of any building component, system, finish or assembly of a facility together with any related handling operations.
43. Disposal Bag: A properly labeled 6 mil thick leak-tight plastic bags used for transporting asbestos waste from work and to disposal site.
44. Disturb: Any action taken which may alter, change, or stir, such as but not limited to the removal, encapsulation, enclosure, or repair of asbestos-containing material.
45. Encapsulant: A material that surrounds or embeds asbestos fibers in an adhesive matrix, to prevent release of fibers.
    a. Bridging encapsulant: an encapsulant that forms a discrete layer on the surface of an in situ asbestos matrix.
    b. Penetrating encapsulant: an encapsulant that is absorbed by the in situ asbestos matrix without leaving a discrete surface layer.
    c. Removal encapsulant: a penetrating encapsulant specifically designed to minimize fiber release during removal of asbestos-containing materials rather that for in situ encapsulation.
46. Encapsulation: Treatment of asbestos-containing materials, with an encapsulant.
47. Enclosure: The construction of an air-tight, impermeable, permanent barrier around asbestos-containing material to control the release of asbestos fibers into the air.
48. Equipment Room: A contaminated area or room which is part of the worker decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.
49. Fiber: An acicular single crystal or a similarly elongated polycrystalline aggregate which displays some resemblance to organic fibers by having such properties as flexibility, high aspect ratio, silky luster, axial lineation, and others, and which has attained its shape primarily through growth rather than cleavage.
50. Fiber Count: Average number of fibers in a cubic centimeter of air (f/cc).
51. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.
52. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area.
53. Filter: A media component used in respirators to remove solid or liquid particles from the inspired air.

54. Friable Asbestos Material: Material that contains more than 1.0% asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
55. Friable Material Containment: The encapsulation or enclosure of any friable ACM in a facility.
56. Glovebag: A sack (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic) with inward projecting long sleeve gloves, which are designed to enclose an object from which an asbestos-containing material is to be removed.
57. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of asbestos fibers greater than 0.3 microns in diameter.
58. HEPA Filter Vacuum Collection Equipment (or vacuum cleaner): High efficiency particulate air filtered vacuum collection equipment with a filter system capable of collecting and retaining asbestos fibers. Filters should be of 99.97% efficiency for retaining fibers of 0.3 microns or larger.
59. High-efficiency particulate air filter (HEPA): Refers to a filtering system capable of trapping and retaining 99.97 percent of all mono-dispersed particles 0.3 um in diameter or larger.
60. High Volume Sampling Pump: An instrument used to draw ambient air over a filter at a flow rate between ten (10) and thirty (30) liters per minute. The high volume sampling pumps are generally utilized for background or baseline samples, environmental samples, decontamination unit samples, and post-abatement samples.
61. Holding Area: A small chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.
62. Homogeneous Work Area: A portion of the work area which contains one type of asbestos-containing material and/or where one type of abatement is used.
63. Incidental Exposure: Occupational exposure to asbestos fibers caused to oneself by disturbing ACM during the performance of one's job, except during the performance of an asbestos project or minor project.
64. Industrial Hygiene/ Environmental Consultant: That science and art devoted to the recognition, evaluation and control of those environmental factors or stresses, arising in or from the work place, which may cause sickness, impaired health and well being, or significant discomfort and inefficiency among workers or among the citizens of the community.
65. Industrial Hygienist/ Environmental Consultant: An individual having a college or university degree or degrees in Engineering, Chemistry, Physics, or Medicine or related Biological Sciences who, by virtue of special studies and training must have been sufficient in all of the above cognate sciences to provide the following abilities:
    a. To recognize the environmental factors and to understand their effect on people and their well being.
    b. To evaluate, on the basis of experience and with the aid of quantitative measurement techniques, the magnitude of these stresses in terms of ability to impair people's health and well being.
    c. To prescribe methods to eliminate, control or reduce such stresses when necessary to alleviate their effects.
66. Isolation Barrier: The construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal off the work place from surrounding areas to contain asbestos fibers in the work area.
67. Large Asbestos Project: The removal, enclosure, or encapsulation within one year of 160 square feet or more of asbestos-containing material used on an equipment, wall, or ceiling area; or involves the removal or encapsulation, using a liquid material applied by a pressurized spray, within one year of 260 linear feet or more of asbestos-containing material on covered piping.

68. Log: An official record of all activities that occurred during the project and it shall identify the Building Owner, Agent, Contractor, and Workers, and other pertinent information (e.g., equipment malfunctions, contamination beyond the work area, etc.).
69. Low Volume Sampling Pump: An instrument used to collect air samples at rates ranging from one (1) to three (3) liters per minute. The low volume sampling pump, also known as the personal sampling pump, is essentially utilized for personal samples and work area samples.
70. Minor Asbestos Project: Corrective action using recommended work practices to minimize the likelihood of fiber release from damaged areas of asbestos ceilings, pipe and boiler insulation which involves the removal, repair, encapsulation or enclosure of 25 square feet or less of asbestos-containing material used on an equipment, wall or ceiling area, or involves the removal or encapsulation, using a liquid material applied by a pressurized spray, of 10 linear feet or less of asbestos-containing material on covered piping within one year from the start of the initial abatement work. The repair, enclosure and encapsulation by methods other than pressurized spray of any amount of asbestos-containing material, used to cover piping, shall also be a minor asbestos hazard abatement project.
71. Movable Object: A unit of equipment or furniture in the work area which can be removed from the work area.
72. Negative Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration. The system shall be capable of creating a negative pressure differential between the outside and inside of the work area.
73. Negative Pressure Respirator: A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
74. Negative Pressure Ventilation System: A pressure differential and ventilation system.
75. Occupied Area: An area of the worksite where abatement is not taking place and where personnel or occupants normally function or where workers are not required to use personal protective equipment.
76. Outside Air: The air outside the work place.
77. Permissible Exposure Limit: The permitted exposure to a particular concentration of a substance as specified by OSHA. The current permissible exposure limit for asbestos is 0.1 f/cc for an eight-hour (8) time-weighted average.
78. Personal Air Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.
79. Personal Protective Equipment (PPE): Appropriate protective clothing, gloves, eye protection, footwear, head gear and approved respiratory protection.
80. Plasticize: To cover walls and floors with plastic sheeting as herein specified or by using approved spray plastics.
81. Pressure Differential and Ventilation System: A local exhaust system, utilizing HEPA filtration capable of maintaining a pressure differential with the inside of the Work Area at a lower pressure than any adjacent area, and which cleans re-circulated air or generates a constant air flow from adjacent areas into the Work Area.
82. Protection Factor: The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.
83. Qualitative Fit Test: The individual test subject's responding (either voluntarily or involuntarily) to a chemical challenge outside the respirator facepiece. Three of the most

popular methods include:

a. Irritant smoke test.

b. Odorous vapor test.

c. Taste test.

84. Quantitative Fit Test: Exposing the respirator wearer to a test atmosphere containing an easily detectable, nontoxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test atmosphere and the air inside the facepiece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the tests.

85. Removal: The stripping of any asbestos-containing materials from surfaces or components of a facility or taking out structural components in accordance with 40 CFR 61 Subparts A and M.

86. Replacement Material: Any material used to replace ACM that contains less than .01% asbestos by weight.

87. Repair: Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.

88. Respirator: A device designed to protect the wearer from the inhalation of harmful atmospheres.

89. Shift: A worker's, or simultaneous group of worker's, complete daily term of work.

90. Shower Room: A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.

91. Small Asbestos Project: The removal, enclosure or encapsulation within one year of more than 25 and less than 160 square feet of asbestos-containing material used on an equipment, wall or ceiling area; or involves the removal or encapsulation, using a liquid material applied by a pressurized spray within one year of more than 10 and less than 260 linear feet of asbestos-containing material on covered piping.

92. Staging Area: The work area near the Waste Decontamination Chamber where containerized asbestos waste has been placed prior to removal from work area.

93. Strip: To remove friable Asbestos materials from any part of the facility.

94. Structural Member: Any load-supporting member of a facility, such as beams and load-supporting walls, or any non-load supporting member, such as ceiling and non-load supporting walls.

95. Surface Barriers: The plasticizing of walls, floors, and fixed objects within the work area to prevent contamination from subsequent work.

96. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.

97. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.

98. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

99. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with amended water or diluted removal encapsulant and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

100. Wet Methods: The use of amended water or removal encapsulants to minimize the generation of fibers during ACM disturbance.
101. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. Work area is a Regulated Area as defined by 29 CFR 1926.
102. Worker: Certified asbestos handler and/or asbestos handler supervisor.
103. Work Place: The work area and the decontamination enclosure system(s).
104. Work Site: Premises where asbestos abatement activity is taking place and may be composed of one or more work areas.

1.5 SPECIFICATION FORMAT AND CONTENT EXPLANATION:

A. This Article is provided to help the user of these Specifications understand the format, language, implied requirements, and similar conventions. None of the explanations shall be interpreted to modify the substance of Contract requirements.

B. Specification Format: These Specifications are organized into Divisions, Sections or Trade Headings based on the Construction Specifications Institute's 16-Division format and the MASTERFORMAT numbering system. This organization conforms generally to recognized construction industry practice.

C. Specification Content: This Specification has been produced employing conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
   1. Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
   2. Imperative Language is used generally in the Specifications. Requirements expressed imperatively are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.

D. Assignment of Specialists: The Specification requires that certain specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and the assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
   1. This requirement should not be interpreted to conflict with enforcement of building codes or regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.

E. Trades: Use of titles such as "carpentry" is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

1.6 DRAWING SYMBOLS:

A. Graphic symbols used on the Drawings are those recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic

Standards", published by John Wiley & Sons, Inc., seventh edition.

B. Mechanical/Electrical Drawings: Graphic symbols used on mechanical and electrical Drawings are generally aligned with symbols recommended by ASHRAE. Where appropriate, they are supplemented by more specific symbols recommended by technical associations including ASME, ASPE, IEEE and similar organizations. Refer instances of uncertainty to the Owner's Representative for clarification before proceeding.

1.7 INDUSTRY STANDARDS:

A. Applicability of Standards: Except where Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.

1. Referenced industry standards take precedence over standards that are not referenced but recognized in the construction industry as applicable.
2. Unreferenced industry standards are not directly applicable to the work, except as a general requirement of whether the work complies with recognized construction industry standards.

B. Publication Dates: Where compliance with an industry standard is required, comply with standard in effect as of date of Contract Documents.

C. Updated Standards: At the request of the Owner's Representative, Contractor or authority having jurisdiction, submit a Change Order proposal where applicable code or standard has been revised and reissued after the date of the Contract Documents and before performance of Work affected. The Owner's Representative will decide whether to issue a Change Order to proceed with the updated standard.

D. Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Owner's Representative for a decision before proceeding.

E. Minimum Quantities or Quality Levels: In every instance the quantity or quality level shown or specified shall be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values, as noted, or appropriate for the context of the requirements. Refer instances of uncertainty to the Owner's Representative for decision before proceeding.

F. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entities' construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed for performance of a required construction activity, the Contractor shall obtain copies directly from the publication source.
2. Although copies of standards needed for enforcement of requirements may be part of required submittals, the Owner's Representative reserves the right to require the Contractor to submit additional copies as necessary for enforcement of requirements.

G. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations as referenced in Contract Documents are defined to mean the associated names. Names and addresses are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

1. AIHA - American Industrial Hygiene Association 475 Wolf Ledges Parkway Akron, OH 44311 216/762-7294.
2. AIA - American Institute of Architects 1735 New York Ave. NW Washington, DC 20006 202/626-7474.
3. ANSI - American National Standards Institute 143O Broadway New York, NY 10018 212/354-3300.
4. ASHRAE - American Society for Heating, Refrigerating, and Air Conditioning Engineers 1791 Tullie Circle NE Atlanta, GA 30329 404/636-8400.
5. ASME - American Society of Mechanical Engineers 345 East 47th Street New York, NY 10017 212/705-7722.
6. ASPE - American Society of Plumbing Engineers 3716 Thousand Oaks Boulevard, Suite 210,Westlake, CA 91362 805/495-7120.
7. ASTM - American Society for Testing and Materials 1916 Race St. Philadelphia, PA 19103 215/299-5400.
8. AWCI - Association of the Wall and Ceiling Industries- International 25 K Street, NW Washington, DC 20002 202/783-2924.
9. CFR - Code of Federal Regulations Available from Government Printing Office; Washington, DC 20402 (usually first published in Federal Register) 202/783-3238.
10. CGA - Compressed Gas Association 1235 Jefferson Davis Highway Arlington, VA 22202 703/979-0900.
11. CS - Commercial Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402 202/377-2000.
12. DOT - Department of Transportation 400 Seventh St., SW Washington, DC 20590 202/426-4000.
13. EPA - Environmental Protection Agency 401 M St.,SW Washington, DC 20460 202/382-3949.
14. FS - Federal Specification (General Services Admin.) Obtain from your Regional GSA Office, or purchase from GSA Specifications Unit (WFSIS) 7th and D Streets, S.W. Washington, DC 20406 202/472-2205 or 2140.
15. GA - Gypsum Association 1603 Orrington Ave. Evanston; IL 60201 312/491-1744.
16. GSA - General Services Administration F St. and 18th St., NW Washington, DC 20405 202/655-4000.
17. IEEE - Institute of Electrical and Electronic Engineers 345 E. 47th Street New York, NY 10017 212/705-7900.
18. MIL - Military Standardization Documents (U.S. Dept. of Defense) Naval Publications and Forms Center, 5801 Tabor Ave. Philadelphia, PA 19120.
19. MSHA - Mine Safety and Health Administration, Approval and Certification Center, P.O. Box 251, Route 1, Triadelphia, WV 26059.
20. NBS - National Bureau of Standards (U.S. Dept. of Commerce) Gaithersburg, MD 20234 301/921-1000.

21. NEC - National Electrical Code (by NFPA).
22. NESHAP - National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).
23. NIOSH - National Institute for Occupational Safety and Health CDC - NIOSH, 4676 Columbia Parkway, Cincinnati, OH 45226
24. NFPA - National Fire Protection Association Batterymarch Park Quincy, MA 02269 617/770-3000.
25. NRCA - National Roofing Contractors Association 6250 River Road Rosemont, IL 60018 312/318-6722.
26. OSHA - Occupational Safety & Health Administration (U.S. Dept. of Labor) Government Printing Office Washington, DC 20402 202/783-3238.
27. PS - Product Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402 202/783-3238.
28. RFCI - Resilient Floor Coverings Institute 966 Hungerford Drive, Suite 12-B Rockville, MD 20805 301/340-8580.
29. UL - Underwriters Laboratories 333 Pfingsten Rd. Northbrook, IL 60062 312/272-8800.

H. Trade Union Jurisdictions: The Contractor shall maintain, and require subcontractors to maintain, complete current information on jurisdictional matters, regulations and pending actions, as applicable to construction activities. The manner in which Contract Documents have been organized and subdivided is not intended to indicate trade union or jurisdictional agreements.

1. Discuss new developments at project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.
2. Assign and subcontract construction activities, and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

1.8 SUBMITTALS:

A. Permits, Licenses and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01092

CODES, REGULATIONS, AND STANDARDS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY:

A. This section sets forth governmental regulations and industry standards which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.

1. Requirements include adherence to all work practices and procedures set forth in applicable codes, regulations and standards and this specification.
2. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

1.3 CODES AND REGULATIONS:

A. General Applicability of Codes and Regulations, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the contract documents, or as if published copies are bound herewith.

B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

C. Federal Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

D. OSHA: U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

1. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 58 of the Code of Federal Regulations
2. Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations
3. Construction Industry Title 29, Part 1926, of the Code of Federal Regulations
4. Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations
5. Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations

6. Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations

E. DOT: U. S. Department of Transportation, including but not limited to:
   1. Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations

F. EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:
   1. Asbestos Abatement Projects; Worker Protection Rule Title 40 Part 763, Sub-part G of the Code of Federal Regulations
   2. Asbestos Hazard Emergency Response Act (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E of the Code of Federal Regulations
   3. Training Requirements of (AHERA) Regulation Asbestos Containing Materials in Schools Final Rule & Notice Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations.
   4. National Emission Standards for Hazardous Air Pollutants (NESHAP) National Emission Standard for Asbestos Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of Federal Regulations

G. State Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
   1. Air Pollution Control Act, Chapter 124.
   2. Bureau of Solid Waste Management Major Asbestos Standards.
   3. Commonwealth of Pennsylvania Department of Labor and Industry Asbestos Occupations Accreditation and Certification Act, Act 194-1990

H. Local Requirements: Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

1.4 STANDARDS:

A. General Applicability of Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

B. Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all standards pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable standard on the part of himself, his employees, or his subcontractors.

C. Standards: which apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:
   1. American National Standards Institute (ANSI) 1430 Broadway New York, New York 10018 (212)354-3300E
      a. Fundamentals Governing the Design and Operation of Local Exhaust Systems Publication Z9.2-79
      b. Practices for Respiratory Protection Publication Z88.2-80

2. American Society for Testing and Materials (ASTM) 100 Bar Harbor Drive, Conshohocken, PA 19428 (610)832-9585
    a. Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849-82

1.5 EPA GUIDANCE DOCUMENTS: discuss asbestos abatement work or hauling and disposal of asbestos waste materials listed below for the Contractor's information only. These documents do not describe the work and are not a part of the work of this contract. EPA maintains an information number (800) 334-8571, publications can be ordered from (800) 424-9065 (554-1404 in Washington, DC):

A. Asbestos-Containing Materials in School Buildings - A Guidance Document. Part 1 & 2. (Orange Books) EPA C00090 (out of print)

B. Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book) EPA 560/5-85-024

C. Friable Asbestos-Containing Materials in Schools: Identification and Notification Rule (40 CFR Part 763)

D. Evaluation of the EPA Asbestos-in-Schools Identification and Notification Rule. EPA 560/5-84-005

E. Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials. EPA 560/5-84-006

F. Asbestos in Buildings: Guidance for Service and Maintenance Personnel. EPA 560/5-85-018

G. Asbestos Waste Management Guidance. EPA 530-SW-85-007

H. Asbestos Fact Book. EPA Office of Public Affairs. Asbestos in Buildings. Simplified Sampling Scheme for Friable Surfacing Materials

I. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification

J. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001

1.6 NOTICES:

A. U.S. ENVIRONMENTAL PROTECTION AGENCY

1. Send Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact at least 10 days prior to beginning any work on asbestos-containing materials. Send notification to the following address:
2. USEPA REGION 3: Asbestos NESHAP Contact, Air & Waste Management Division, 841 Chestnut Street, Philadelphia, PA 19107, (215) 597-6552.
3. Notification: Include the following information in the notification sent to the NESHAP contact:
    a. Name and address of owner or operator.
    b. Description of the facility being demolished or renovated, including the size, age, and prior use of the facility.
    c. Estimate of the approximate amount of friable asbestos material present in the facility in terms of linear feet of pipe, and surface area on other facility components. For facilities in which the amount of friable asbestos materials is less than 260 linear feet

on pipes and less than 160 square feet on other facility components, explain techniques of estimation.

d. Location of the facility being demolished or renovated.

e. Scheduled starting and completion dates of demolition or renovation.

f. Nature of planned demolition or renovation and method(s) to be used.

g. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61 Subpart M).

h. Name and location of the waste disposal site where the friable asbestos waste material will be deposited.

i. For facilities being demolished under an order of a State or local governmental agency, issued because the facility is structurally unsound and in danger of imminent collapse, the name, title, and authority of the State or local governmental representative who has ordered the demolition.

B. STATE AND LOCAL AGENCIES:

1. Send written notification as required by state and local regulations prior to beginning any work on asbestos-containing materials.

1.7 PERMITS:

A. The Contractor shall obtain all required Permits, and pay all Fees associated with their contract.

B. All asbestos containing waste is to be transported by an entity maintaining a current “Industrial waste hauler permit” specifically for asbestos-containing materials, as required for transporting of waste asbestos-containing materials to a disposal site.

1.8 LICENSES:

A. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.9 POSTING AND FILING OF REGULATIONS:

A. Posting and Filing of Regulations: Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulation and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.10 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative for review. No work shall begin until these submittals are returned with Owner's Representative's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

B. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:

1. State and Local Regulations: Submit copies of codes and regulations applicable to the work.

2. Notices: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.
3. Permits: Submit copies of current valid permits required by state and local regulations.
4. Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01301

SUBMITTALS

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 SUMMARY:

A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:
   1. Contractor's construction schedule.
   2. Submittal schedule.
   3. Daily construction reports.
   4. Shop Drawings.
   5. Product Data.
   6. Miscellaneous Submittals.

B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
   1. Permits.
   2. Applications for Payment.
   3. Performance and Payment Bonds.
   4. Insurance Certificates.
   5. List of Subcontractors.

1.3 SUBMITTAL PROCEDURES:

A. Coordination: Transmit each submittal sufficiently in advance of performance of related activities to avoid delay.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE:

A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".
   1. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
   2. Indicate completion and Clearance of each Work Area in Advance of the date established for Substantial Completion. Allow time for testing and other Owner's Representative's procedures necessary for certification of Clearance and Substantial Completion.

B. Phasing: Provide notations on the schedule to show how the sequence of the work is affected by requirements for phased completion.

C. Work Stages: Indicate important stages of construction for each major portion of the work, including testing and installation.
   1. Preparation of the Work Area.
   2. Asbestos Removal.
   3. Clearance Testing.
   4. Substantial Completion.

D. Area Separations: Provide a separate time bar to identify each Work Area or major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.

E. Distribution: Following response to the initial submittal, print and distribute copies to the Owner's Representative, Owner, subcontractors, and other parties required to comply with scheduled dates.

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

1.5 SUBMITTAL SCHEDULE:

A. Listing: Below is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

1.6 PRODUCT DATA:

A. Collect Product Data into a single submittal. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard wiring diagrams and performance curves.

B. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
   1. Manufacturer's printed recommendations.
   2. Compliance with recognized trade association standards.
   3. Compliance with recognized testing agency standards.
   4. Application for testing agency labels and seals.

C. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.

D. Submittals: Submit 1 copy of each required submittal.

1.7 MISCELLANEOUS SUBMITTALS:

A. Material Safety Data Sheets: Process material safety and data sheets as “product data.”

B. Closeout Submittals: Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.

C. Record Documents: Furnish set of original documents as maintained on the project site.

PART 2 PRODUCTS (Not Applicable).

PART 3 EXECUTION (Not Applicable).

END OF SECTION

SECTION 01410

AIR MONITORING

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 work of this section.

B. Air Monitoring: Work area clearance is described in Section 01714 Work Area Clearance.

1.2 DESCRIPTION OF THE WORK:

A. Not in Contract Sum: This section describes work being performed by the Environmental Consultant. This work is not in the Contract Sum.

B. This section describes air monitoring carried out by the Environmental Consultant to verify that the building beyond the work area and the outside environment remains uncontaminated. This section also sets forth airborne fiber levels both inside and outside the work area as action levels, and describes the action required by the Contractor if an action level is met or exceeded.

C. Air monitoring required by OSHA is work of the Contractor and is not covered in this Section. The Abatement Contractor is responsible for providing daily OSHA compliance monitoring as per 29 C.F.R. 1926.1101. OSHA monitoring shall be included in the Asbestos Contractor's Contract Sum.

1.3 AIR MONITORING:

A. Work Area Isolation: The purpose of the Environmental Consultant's air monitoring is to detect faults in the work area isolation such as:
   1. Contamination of the building outside of the work area with airborne asbestos fibers.
   2. Failure of filtration or rupture in the differential pressure system.
   3. Contamination of air outside the building envelope with airborne asbestos fibers.

B. Should any of the above occur, immediately cease asbestos abatement activities until the fault has been corrected. Do not recommence work until authorized by the Environmental Consultant.

1.4 WORK AREA AIRBORNE FIBER COUNT:

A. The Environmental Consultant will monitor airborne fiber counts in the Work Area. The purpose of this air monitoring will be 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.

1.5 WORK AREA CLEARANCE:

A. To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Environmental Consultant will sample and analyze air per Section 01714 Work Area Clearance.

B. The Environmental Consultant will be conducting air monitoring throughout the course of the project.

1.6 STOP ACTION LEVELS:

A. Inside Work Area:

1. 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 Environmental Consultant. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by Environmental Consultant.

STOP ACTION LEVEL (f/cc)	IMMEDIATE STOP LEVEL (f/cc)	MINIMUM RESPIRATOR REQUIRED	PROTECTION FACTOR
0.5	1.0	Type A half-face	10

2. If airborne fiber counts exceed Immediate Stop Level given above for type of respiratory protection in use for any period of time cease all work except corrective action. Notify the Environmental Consultant. Do not recommence work until fiber counts fall below Stop Action Level given above for the type of respiratory protection in use. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Environmental Consultant.

B. Outside Work Area:

1. If any air sample taken outside of the Work Area exceeds the base line established below or is greater than 0.010 f/cc as determined by PCM analysis, immediately and automatically stop all work except corrective action. The Environmental Consultant shall inspect and determine the source of the high reading and so notify the Contractor in writing.
2. 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 01714 Work Area Clearance.
    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 01714 Work Area Clearance.

3. If the high reading was the result of other causes initiate corrective action as determined by the Environmental Consultant.

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 or negligence. The Contract Sum and schedule will be reviewed and may be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

1.7 ANALYTICAL METHODS:

A. The following methods will be used by the Environmental Consultant 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 methodology.
2. Transmission Electron Microscopy (TEM) will be performed using the AHERA guidelines found in 40 CFR Part 763 Appendix A sub part E.

1.8 SAMPLE VOLUMES:

A. General: The number and volume of air samples taken by the Environmental Consultant will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical method used and the site conditions.

1.9 SCHEDULE OF AIR SAMPLES:

A. Daily:
1. From start of work of Section 01526 Temporary Enclosures through the work of Section 01711 Project Decontamination, the Environmental Consultant may be taking the following samples on a daily basis:
a. Inside the Work Area: A minimum of one (1) sample shall be taken per work shift. A low volume sampler shall be employed, drawing a minimum sample volume of 180 liters.
b. Outside the Work Area, but inside the building: Two (2) samples shall be taken per work shift. A high volume sampler shall be employed, drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc. The sampling device shall be placed in locations where potential contamination could occur (e.g. outside entrances and exits to the Work Area) and shall be moved periodically to assess the potential for contamination of adjacent areas at all critical points in the containment system. Special attention shall be given to locations where exhaust ducts from air filtration devices run through occupied areas of the building.
c. In the Clean Room of the Personnel/Waste Decontamination Unit: A minimum of one (1) sample shall be taken in the Decontamination Unit Clean Room per work shift. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc. The sample(s) shall be taken at a time when activity

levels are expected to be at their peak (e.g. shift breaks).

d. Downwind of Air Filtration Unit Exhaust: Where feasible due to onsite conditions, one (1) sample shall be taken per work shift to evaluate potential fiber escape through the Air Filtration Device. A high volume sampler shall be employed drawing a sufficient sample volume to reach a detection limit of 0.010 f/cc.

e. The Analytical Method for all daily environmental monitoring shall be Phase Contrast Microscopy (PCM) (NIOSH 7400).

B. Additional samples may be taken at the Environmental Consultant's discretion. If airborne fiber counts exceed allowable limits, additional samples will be taken as necessary to monitor fiber levels.

1.10 LABORATORY TESTING:

A. The services of a testing laboratory may be employed by the Environmental Consultant to perform laboratory analyses of the air samples. A microscope and technician may be set up at the job site, or samples will be sent by courier so that verbal reports on air sample results can be obtained within 24 hours of the start time of the samples. The Contractor shall have access to all air monitoring tests and results.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 ADDITIONAL TESTING:

A. The Contractor may conduct his/her own air monitoring and laboratory testing. If he/she elects to do this, the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner.

3.2 PERSONAL MONITORING:

A. The Environmental Consultant shall not perform air monitoring to meet Contractor's OSHA requirements for personnel sampling or any other purpose.

END OF SECTION

SECTION 01503

TEMPORARY FACILITIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

A. General: Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

1.3 SUBMITTALS:

A. Before the Start of Work: Submit the following to the Owner's Representative for review. Begin no work until these submittals are approved by the Owner's Representative.
   1. Scaffolding: Submit list of rolling and fixed scaffolding intended for use on the project. Submit sufficient detail to indicate compliance with applicable worker safety regulations or other requirements.
   2. Hot water heater: Submit manufacturers name, model number, size in gallons, heating capacity, power requirements.
   3. Decontamination Unit Sub-panel: Submit product data.
   4. Ground Fault Circuit Interrupters (GFCI): Submit product data.
   5. Lamps and Light Fixtures: Submit product data.
   6. Self-Contained Toilet Units: Provide product data and name of subcontractor to be used for servicing self-contained toilets. Submit method to be used for servicing.
   7. First Aid Supplies: Provide list of contents of first aid kit. Submit in form of check list.
   8. Fire Extinguishers: Provide product data. Submit schedule indicating location at job site.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT:

A. General: Provide new or used materials and equipment that are undamaged and in serviceable condition. Provide only materials and equipment that are recognized as being suitable for the intended use, by compliance with appropriate standards.

2.2 SCAFFOLDING:

A. Provide all scaffolding, ladders and/or staging, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.

B. The rungs of all metal ladders, etc. shall be equipped with an abrasive non-slip surface.

C. All surfaces subject to foot traffic shall have a nonskid surface. Surfaces shall be cleaned as required to remove slippery materials.

D. At the completion of the removal work, all construction aids shall be cleaned within the work area (encapsulated for wood) and wrapped in one layer of six (6) mil polyethylene sheeting and sealed before removal from the work area.

2.3 WATER SERVICE:

A. Temporary Water Service Connection: All connections to the Owner's water system shall include backflow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water will not damage existing finishes or equipment.

B. Water Hoses: Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each work area and to each Decontamination Unit. Provide fittings as required to allow for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.

C. Hot Water Heater: Provide UL rated 30 gallon electric hot water heater to supply hot water for the Decontamination Unit shower. Activate from 30 amp circuit breaker located within the Decontamination Unit subpanel. Provide with relief valve compatible with water heater operation; pipe relief valve down to drip pan on floor with type L copper. Drip pans shall consist of a 12" X 12" X 6" deep pan, made of 19 gauge galvanized steel, with handles. A 3-quart kitchen saucepan may be substituted for this purpose. Drip pan shall be securely fastened to the hot water heater with bailing wire or similar material. Wiring of the hot water heater shall be in compliance with NEMA, NECA, and UL standards.

D. Hot Water: May be secured from the building hot water system, provided backflow protection is installed at the point of connection as described in this section under Temporary Water Service connection, and if authorized in writing by the Owner's Representative.

2.4 ELECTRICAL SERVICE:

A. General: Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.

B. Temporary Power: Provide service to Decontamination Unit subpanel with minimum 60 amp, 2 pole circuit breaker or fused disconnect connected to the buildings main distribution panel. Subpanel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.

C. Voltage Differences: Provide identification warning signs at power outlets which are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.

D. Ground Fault Protection: Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate GFCI's exterior to Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI)

equipped with test button and reset switch for all circuits to be used for any purpose in work area, decontamination units, exterior, or as otherwise required by national electrical code, OSHA or other authority. Locate the panel exterior to Work Area.

E. Electrical Power Cords: Use only grounded extension cords; use "hard service" cords where exposed to abrasion and traffic. Use single lengths or use waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas of work.

F. Lamps and Light Fixtures: Provide general service incandescent lamps or fluorescent lamps of wattage indicated or required for adequate illumination as required by the work or this section. Protect lamps with guard cages or tempered glass enclosures, where fixtures are exposed to breakage by construction operations. Provide vapor tight fixtures in work area and decontamination units. Provide exterior fixtures where fixtures are exposed to the weather or moisture. Use of building lighting fixtures is strictly prohibited.

2.5 TEMPORARY HEAT:

A. Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the fuel being consumed. Use steam or hot water radiation heat where available, and where not available use electric resistant fin radiation supplied from a branch circuit with ground fault circuit interrupter.

2.6 FIRST AID:

A. Comply with governing regulations and recognized recommendations within the construction industry.

2.7 FIRE EXTINGUISHERS:

A. Provide Type “A” fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations provide type “ABC” dry chemical extinguishers, or a combination of several extinguishers of NFPA recommended types for the exposures in each case. The fire extinguishers shall comply with the applicable recommendations of NFPA Standard 10 “Standard for Portable Fire Extinguishers”. Provide not less than one extinguisher in each work area in the equipment room of the decontamination unit and one outside the work area in the clean room. Distance between fire extinguishers within the work area shall not exceed seventy-five (75) feet.

PART 3 EXECUTION

3.1 SCAFFOLDING:

A. During the erection and/or moving of scaffolding, care must be exercised so that the polyethylene floor covering is not damaged.

B. Clean as necessary, debris from non-slip surfaces.

C. At the completion of abatement work clean all construction aids within the work area, wrap in one layer of 6 mil polyethylene sheeting and seal before removal from the Work Area.

3.2 INSTALLATION, GENERAL:

A. Use qualified tradesmen for installation of temporary services and facilities. Locate temporary services and facilities where they will serve the entire project adequately and result in minimum interference with the performance of the Work.

B. Require that tradesmen accomplishing this work be licensed as required by local authority for the work performed.

C. Relocate, modify and extend services and facilities as required during the course of work so as to accommodate the entire work of the project.

D. The Contractor shall coordinate with the Building Owner for connection to existing building utilities. No connections shall be executed without prior approval of the building owner.

3.3 WATER SERVICE:

A. Water connection (without charge) to Owner's existing potable water system is the responsibility of the Contractor. Install using vacuum breakers or other backflow preventer as required by local authority. Hot water shall be supplied at a minimum temperature of 100 F. Supply hot and cold water to the Decontamination Unit in accordance with Section 01516. In addition, water shall be supplied for all worksite uses.

B. Maintain hose connections and outlet valves in leak proof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from pans as it accumulates.

3.4 ELECTRICAL SERVICE:

A. Provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the construction period. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every area of work.

B. Lockout all existing power to or through the work area as described below. Unless specifically noted otherwise existing power and lighting circuits to the Work Area are not to be used. All power and lighting to the Work Area and Decontamination facilities are to be provided from temporary electrical panel described below.

1. Lockout power to Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Lock panel and have all keys under control of the Owner's designated Representative.
2. Lockout power to circuits running through Work Area wherever possible by switching off all breakers serving these circuits. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Sign and date danger tag. Lock panel and turn keys over to the Owner's Representative for control. If circuits cannot be shut down for any reason, label at intervals 4’-0” on center with tags reading, “DANGER live electric circuit. Electrocution hazard”.

C. Provide temporary electrical panel sized and equipped to accommodate all electrical equipment and lighting required by the work. Connect temporary panel to existing building electrical system. Protect with circuit breaker or fused disconnect. Locate temporary panel as directed by Owner or Owner's Representative.

D. Upon request provide and bear all costs associated with off-hour or twenty-four (24) hour electrical service to the work area as required by the Building Owner for Air Monitoring services.

E. Power Distribution System: Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be at least exposed to damage from construction operations.

F. Circuit Protection: Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel. Do not use outlet type GFCI devices.

G. Temporary wiring in the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors. Provide liquid tight enclosures or boxes for wiring devices.

H. Number of Branch Circuits: Provide sufficient branch circuits as required by the work. All branch circuits are to originate at temporary electrical panel. At minimum provide the following:

1. One Circuit for each HEPA filtered fan unit.
2. For power tools and task lighting, provide one temporary 4-gang outlet in the following locations. Provide a separate 110-120 Volt, 20 Amp circuit for each 4-gang outlet (4 outlets per circuit).
    a. One outlet in the work area for each 2500 square feet of work area
    b. One outlet at each decontamination unit, located in equipment room
3. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use while conducting air sampling during the work as follows:
    a. One in each work area
    b. One at clean side of each Decontamination Unit.
    c. One at each exhaust location for HEPA filtered fan units
4. 110-120 volt 20 amp branch circuits with 4-gang outlet for Owner's exclusive use for conducting final air sampling as set forth in Section 01714 Work Area Clearance as follows:
    a. Five inside work area
    b. Two outside work area in location designated by Owner's Representative

3.5 TEMPORARY LIGHTING:

A. Lockout: Lock out all existing power to lighting circuits in Work Area as described in section 01526 Temporary Enclosures. Unless specifically noted otherwise existing lighting circuits to the Work Area are not to be used. All lighting to the Work Area and Decontamination facilities is to be provided from temporary electrical panel described above.

B. Provide the following or equivalent where natural lighting or existing building lighting does not meet the required light level.
    a. One 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting, or equivalent illumination of a similar nature. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stair ways and at ladder runs, provide one lamp minimum per story, located to illuminate each landing and flight. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.

C. Provide lighting in areas where work is being performed as required to supply a 100 foot candle minimum light level.

D. Provide lighting in any area being subjected to a visual inspection as required to supply a 100 foot candle minimum light level.
E. Provide lighting in the Decontamination Unit as required to supply a 50 foot candle minimum light level.
F. Provide sufficient lighting circuits as required by the work. All lighting circuits are to originate at temporary electrical panel.
G. Protect each circuit with a ground fault circuit interrupter (GFCI) of proper size located in the temporary panel.

3.6 TEMPORARY HEAT:

A. General: Provide temporary heat where indicated or needed for performance of work.

B. Maintain a minimum temperature of 70 degrees F where finished work has been installed.

C. Maintain a minimum temperature of 75 degrees F in the shower of the decontamination unit.

D. Maintain a minimum temperature of 70 degrees F in the Work Area at all times that work is being performed. At all other times and at the completion of removal work, but before the start of reconstruction work, maintain a minimum temperature of 50 degrees F.

E. Maintain a minimum temperature of 70 degrees F in the Work Area at all times during and after removal work.

3.8 FIRE EXTINGUISHERS:

A. Fire Extinguishers: Comply with the applicable recommendations of NFPA Standard 10 “Standard for Portable Fire Extinguishers”. Locate fire extinguishers where they are most convenient and effective for their intended purpose, but provide not less than one extinguisher in each Work Area in the Equipment Room and one outside Work Area in the Clean Room.

END OF SECTION

SECTION 01513

TEMPORARY PRESSURE DIFFERENTIAL & AIR FILTRATION SYSTEM

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 MONITORING:

A. The Contractor shall supply a digital manometer with a continuous recorder (e.g. strip chart) and alarm for the purpose of continuously monitoring and recording the pressure differential between the Work Area and the building outside of the Work Area. The Contractor shall be solely responsible for providing competent individual(s), to perform asbestos work to observe and monitor the work area(s) and digital manometer readings. This individual shall be authorized and capable of investigating and remediating any drop in the pressure differential system between the work area(s) and the building outside the work area.

1.3 SUBMITTALS:

A. Before Start of Work: Submit design of pressure differential system to the Environmental Consultant for review. Do not begin work until the submittal is approved. Include in the submittal:

1. Number of HEPA-equipped air filtration units required and the calculations necessary to determine the number of machines.
2. Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the work area.
3. Anticipated pressure differential across Work Area enclosures.
4. Description of methods of testing for correct air flow and pressure differentials.
5. Manufacturer's product data on the HEPA-equipped air filtration units to be used.
6. Location of the machines in the Work Area.
7. Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power.
8. Description of work practices to insure that airborne fibers travel away from workers.
9. Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area.

B. On a weekly basis: Submit the printout from the pressure differential monitoring equipment. Mark the printout with date and start time for each day. Use printout paper that indicates elapsed time in intervals no greater than hours. Indicate on each days' record, times of starting and stopping abatement work, type of work in progress, breaks for lunch and other purposes, periods of stop work, and filter changes. Cut printout into segments by day, attach to 8 ½" by 11" paper. Label with project name, Contractor name and date.

1.4 QUALITY ASSURANCE:

A. Monitor pressure differential at Personnel and Equipment Decontamination Units with one or more digital manometers equipped with a continuous recorder. Manometers shall be equipped with a warning buzzer which will sound if pressure differential drops below negative 0.03 inches of water column.

PART 2 PRODUCTS

2.1 HEPA-EQUIPPED AIR FILTRATION UNITS:

A. General: Supply the required number of HEPA-equipped air filtration units to the site in accordance with these specifications. A minimum of one additional unit shall be installed as a backup to be used during primary unit filter changing and upon unit failure. Use units that meet the following requirements:

1. Cabinet: Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches to fit through standard-size doorways. Provide units whose cabinets are:
    a. Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance.
    b. Arranged to provide access to and replacement of all air filters from intake end.
    c. Mounted on casters or wheels.
2. Fans: Rate capacity of fan according to usable air-moving capacity under actual operating conditions.
3. HEPA Filters: Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.
    a. Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.
    b. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 µm dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.
    c. Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.
    d. Pre-filters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. Provide units with the following pre-filters:
        i. First-stage pre-filter: low-efficiency type (e.g., for particles 100 µm and larger).
        ii. Second-stage (or intermediate) filter: medium efficiency (e.g., effective for particles down to 5 µm).
    e. Provide units with pre-filters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.
4. Instrumentation: Provide units equipped with:
    a. Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed.

b. A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) air delivery at that point.

c. Elapsed time meter to show the total accumulated hours of operation.

5. Safety and Warning Devices: Provide units with the following safety and warning devices:
   a. Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter.
   b. Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge.
   c. Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red).
   d. Audible alarm if unit shuts down due to operation of safety systems.
6. Electrical components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.
7. Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:
   a. Aerospace America, Inc. “Aero-Clean 2000” 900 Truman Parkway P.O. Box 189 Bay City, Michigan 48707A
   b. Asbestos Control Technology, Inc. “Micro-Trap” P.O. Box 183 Maple Shade, NJ 08052
   c. Control Resource Systems, Inc. “Hog” 2000 670 Mariner Drive Michigan City, Indiana 46360
   d. Global Consumer Services, Inc. “Red Baron” 1721 N. Highland Avenue Los Angeles, CA 90028
   e. Tri-Dim Filter Corporation “ACCU-2M” 1431 West Lake Street Chicago, Illinois 60607
   f. Or Approved Equal

PART 3 EXECUTION

3.1 PRESSURE DIFFERENTIAL ISOLATION:

A. Isolate the Work Area from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

B. Relative Pressure in Work Area: Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of negative 0.03 inches of water, at a minimum.

C. Accomplish the pressure differential by exhausting a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:

1. Establish required air circulation in the work area, personnel and equipment decontamination units.
2. Establish isolation by increased pressure in adjacent areas or as part of seals where required.
3. Exhaust a sufficient number of units from the work area to develop one complete air exchange every fifteen (15) minutes.
4. The required number of units is the number determined above plus one additional unit.

D. Vent HEPA filtered fan units to outside of building unless authorized in writing by Environmental Consultant.
1. Mount units to exhaust directly or through disposable ductwork.
2. Use only new ductwork except for sheet metal connections and elbows.
3. Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.
4. Use spiral wire-reinforced flex duct in lengths not greater than 50 feet.
5. If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet of spiral wire-reinforced flex duct after direction change.
6. change direction. Use six feet of spiral wire-reinforced flex duct after direction change.

3.2 AIR CIRCULATION IN THE WORK AREA:

A. Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.

B. Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in his worker protection program.

C. Determining the Air Circulation Requirements: Provide a fully operational air circulation system supplying a minimum of four (4) air changes per hour.

D. Determine Number of Units needed to achieve required air circulation according to the following procedure:
1. Determine the volume in cubic feet (CF) of the work area by multiplying floor area (LxW) by ceiling height (H) = (*length x width x height = CF*):

Cubic Footage for Work Area:	13,000	cubic feet

Determine total Air Circulation Required in cubic feet per minute (CFM) for the work area by multiplying this volume by the air change rate (4) and dividing by 60. This will give you Air Circulation Required in Cubic Feet of Air per Minute (CFM or ft^3/min):

$$\left(\frac{Volume\ of\ Work\ Area\ (CF)}{1} X \frac{4\ (number\ of\ air\ changes\ per\ hou\ )}{60\ (minutes\ per\ hour)} \right)$$

Air Circulation Required:	(13,000/1)*(4/60)=	**866.6667 ft3/min**

2. Determine the total capacity of the air filtration devices (AFD) by taking nine (9) measurements across the face of each AFD using an anemometer set to read feet/ minute.

AFD Measurements:

AFD 1	589	510	510	2'
	466	370	431	
	352	370	466	
	2'			

AFD 2	387	370	352	2'
	308	352	370	
	370	370	290	
	2'			

If the anemometer reads in miles per hour (MPH) must covert this to ft/ min:

$$(\text{MPH X } \frac{5{,}280}{60} - \text{ft/min})$$

3. Add the nine (9) measurements together for each AFD, divide that number by 9 and multiply the result times the square footage of the AFD pre-filter for the ft^3/min for each AFD:

Actual Capacity for Each AFD:

AFD 1 (589+510+510+466+370+431+352+370+466)/9= 451.5556
451.556*(2x2)SF= **1806.222 ft3/min**

AFD 2 (387+370+352+308+352+370+370+370+290)/9= 352.1111
352.1111*(2x2)SF= **1408.444 ft3/min**

4. Add the ft^3/min up for all AFDs and divide by number of AFDs, onsite for Total Capacity of Units:

Average Capacity for All AFDs (1806.222+1408.444)/2 AFDs= **1607.333333 ft3/min**

5. Divide the air circulation requirement (CFM) above by capacity of HEPA filtered fan unit(s) used. Capacity of a unit for purposes of this section is the capacity in cubic feet per minute with fully loaded filters (pressure differential which causes loaded filter warning light to come on) in the machine's labeled operating characteristics. Number of Units Required:

$$\left(\frac{Air\ Circulation\ Required\ (CFM)}{Total\ Capacity\ of\ Units\ (CFM)}\right)$$

Number of AFDs Required 866.6667/1607.333= **0.539195 AFDs**

1 AFD needed plus at least 1 backup

Add one (1) additional unit as a backup in case of equipment failure or machine shutdown for filter changing.

If calculation for capacity for an individual AFD is higher than what the AFD is rated for, re-take measurements ensuring correct scale is used

If current number of units is not enough and units are operating in Low mode, switch to High mode and re-take readings and re-calculate.

3.3 EXHAUST SYSTEM:

A. Pressure differential isolation and air circulation in the Work Area are to be accomplished by an exhaust system as described below.

B. Exhaust all units from the Work Area to meet air circulation requirement of this section.

C. Location of HEPA-equipped air filtration units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.

D. Place the intake portion of the unit or its exhaust duct through an opening in the plastic barrier or wall covering. Seal the plastic sheeting around the unit or exhaust duct with tape.

E. Vent to Outside of Building, unless authorized in writing by the Environmental Consultant.

F. Decontamination Units: Arrange Work Area and decontamination units so that the majority of make-up air comes through the Decontamination Unit.

G. Supplemental Makeup Air Inlets: Provide where required for proper air flow through the Work Area in location approved by the Environmental Consultant by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

3.4 AIR CIRCULATION IN DECONTAMINATION UNITS:

A. Pressure Differential Isolation: Continuously maintain the pressure differential required for the work area in the:

1. Personnel Decontamination Unit: across the Shower Room with the Equipment Room at a lower pressure than the Clean room.
2. Equipment Decontamination Unit: Across the Holding Room with the Wash Room at a lower pressure than the Clean Room.

B. Air Circulation: Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.

C. Air Movement: Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room.

3.5 USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

A. General: Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section

01503 “Temporary Facilities”. Do not use existing branch circuits to power fan units.

B. Testing the System: Test pressure differential system before any asbestos-containing material is wetted or removed. After the Work Area has been prepared, the decontamination facility set up, and the fan unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of pressure differential system to Industrial Hygienist.

C. Demonstrate Condition of Equipment for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:
   1. Squareness of HEPA Filter.
   2. Condition of seals.
   3. Proper operation of all lights.
   4. Proper operation of automatic shut down if exhaust is blocked.
   5. Proper operation of alarms.
   6. Proper operation of magnehelic gauge.
   7. Proper operation and calibration on pressure monitoring equipment.

D. Demonstrate Operation of the pressure differential system to the Industrial Hygienist will include, but not be limited to, the following:
   1. Plastic barriers and sheeting move lightly in toward Work Area.
   2. Curtain of decontamination units move lightly in toward Work Area.
   3. There is a noticeable movement of air through the Decontamination Unit.
   4. Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.
   5. Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.
   6. Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.

E. Modify the Pressure Differential System as necessary to demonstrate successfully the above.

F. Use of System During Abatement Operations:
   1. Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.
   2. Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the Environmental Consultant. Supply sufficient pre-filters to allow frequent changes.
   3. Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and fan units are operating again.
   4. At completion of abatement work, allow fan units to run as specified under Section 01711 - Project Decontamination, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially

wetted asbestos material was encountered during any abatement work.

G. Dismantling the System:

1. When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with 6 mil polyethylene to prevent environmental contamination from the filters.

END OF SECTION

TEMPORARY ENCLOSURES & WORK AREA PREPARATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 SUBMITTALS:

A. Before Start of Work submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.

B. For Spray Cement, submit the following:
   1. Product description including major components and solvents.
   2. Manufacturer's installation instructions. Indicate portions applicable to the project.
   3. Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for spray cement material proposed for use during the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

C. Sheet Plastic: For fire retardant plastic submit test reports on NFPA 701 test.

D. Signs: Submit samples of signs to be used.

PART 2 PRODUCTS

2.1 SHEET PLASTIC:

A. Polyethylene Sheeting: Provide flame-resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-Resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil thick as indicated, frosted or black as indicated.

B. Provide materials that meet the following fire safety requirements:
   1. When wet or being installed:
      a. Do not create combustible vapors.
      b. Have no flash point.
      c. Are not noxious.
      d. Department of Transportation category of non-friable
   2. When dry, material must have a Class A rating as a building material and meet the following requirements when tested in accordance with ASTM E-84.
      a. Flame Spread no greater than 20.
      b. Fuel Contributed 0.
      c. Smoke Developed no more than 110.
   3. Deliver materials to the job site in unopened, factory labeled containers.

2.2 MISCELLANEOUS MATERIALS:

A. Duct Tape: Provide duct tape in 2” or 3” widths as indicated, with an adhesive which is formulated to stick aggressively to polyethylene sheeting.

B. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to polyethylene sheeting.

PART 3 EXECUTION

3.1 SEQUENCE OF WORK:

A. Carry out work of this section sequentially. Complete each activity before proceeding to the next.
   1. The Work Area shall mean the location where asbestos-abatement work occurs. It is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A “Work Area” is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos-control work.
   2. The Contractor shall inspect each work location with the Environmental Consultant . The Contractor and Environmental Consultant shall agree on conditions of materials and worksite and select the appropriate abatement procedures. Should the Environmental Consultant and Contractor not be in agreement, the Building Owner and Environmental Consultant shall make the final decision.
   3. Completely isolate the Work Area from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to owner.
   4. Each work area location shall be pre-cleaned as per Section 01013. Respirators and protective equipment are required as per Sections 01560 and 01562.
   5. Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to completion of Work Area isolation.
   6. Stationary restroom equipment (toilets, sinks, etc.) shall be completely covered with two (2) layers of polyethylene sheeting, at least 6 mil in thickness, securely taped in place with duct tape and individually sealed. Such equipment shall be considered outside the work area unless covering plastic or seal is breached.
   7. Disable ventilating systems or any other system bringing air into or out of the Work Area. Disable system by disconnecting wires, removing circuit breakers, by lockable switch or other positive means that will prevent accidental premature restarting of equipment.
   8. Lockout power to the Work Area by switching off all breakers serving power or lighting circuits in work area. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Lock panel and have all keys under control of the Owner's designated Representative.
   9. Lockout power to circuits running through work area wherever possible by switching off all breakers or removing fuses serving these circuits. Label breakers with tape over breaker with notation “DANGER circuit being worked on”. Lock panel and have all keys under control of the Owner's designated representative. If circuits cannot be shut down for any reason, label at intervals 4'-0” on center with tags reading, “DANGER live electric circuit. Electrocution hazard”. Label circuits in hidden locations but which may be affected by the work in a similar manner.

3.2 EMERGENCY PRECAUTIONS:

A. The Contractor shall prepare a contingency plan for emergencies including fire, accident, power failure, negative air system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation. Note that nothing in this Specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.

B. The Contractor shall provide barricades and adequate protection to safely prevent accidental entrance to the abatement area by any building occupants. Signage shall be posted in visible locations a sufficient distance to allow an individual to take all necessary protective precautions prior to being exposed to airborne asbestos fiber concentrations.

C. Before the Contractor starts actual abatement of asbestos material, the local fire department and ambulance crews shall be notified, by the Contractor, as to the dangers of entering the work area. The Contractor shall make every effort to help these agencies and form plans of action should their personnel need to enter the contaminated area.

D. Local medical emergency personnel, both ambulance crews and hospital emergency room staff, shall be notified, by the Contractor, as to the possibility of having to handle injured work persons who are contaminated with asbestos dust. They shall be advised on safe decontamination procedures.

E. First aid shall comply with the governing regulations and all recognized recommendations within the construction industry.

F. Except as otherwise indicated, submit special reports directly to the Owner within one day of occurrence requiring special report, with copy to Owner's Representative, Project Consultants and others affected by occurrence.

3.3 EMERGENCY EXITS:

A. Provide emergency exits and emergency lighting as set forth below:
   1. Emergency Exits: At each existing exit door from the Work Area provide the following means for emergency exiting:
      a. Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area.
      b. Mark outline of door on Primary and Critical Barriers with luminescent paint at least 1” wide. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint words “EMERGENCY EXIT” inside outline with luminescent paint in letters at least one foot high and 2" thick.
      c. Provide lighted, battery powered exit sign at each exit.

3.4 CONTROL ACCESS:

A. Isolate the Work Area to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:
   1. Coordinate with the Industrial Hygienist the doors and other openings that must be secured to isolate Work Area.
   2. After receiving authorization from the Industrial Hygienist, lock all doors into Work Area. If doors cannot be locked, chain shut. Cover any signs that direct emergency exiting, either outside or inside of Work Area, to locked doors. Do not obstruct doors required for emergency

exits from Work Area or from building.

3. Fabricate partitions from 2 X 4 wood studs with ½" plywood on one face. Brace at 16" on center.

B. Locked Access: Arrange Work Area so that the only access into Work Area is through lockable doors to personnel and equipment decontamination units.

C. Provide Warning Signs at each locked door leading to Work Area reading as follows: Print text in both English and Spanish:

LEGEND	NOTATION
KEEP OUT	3" Sans Serif Gothic or Block
BEYOND THIS POINT	1" Sans Serif Gothic or Block
ASBESTOS ABATEMENT WORK	1" Sans Serif Gothic or Block
IN PROGRESS	1" Sans Serif Gothic or Block
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH	14 Point Gothic

D. Immediately inside doors and outside critical barriers post an approximately 20 inch by 14 inch manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

3.5 LEGEND:

A. Provide spacing between respective lines at least equal to the height of the respective upper line.

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
IN THIS AREA
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED
IN THIS AREA

3.6 RESPIRATORY AND WORKER PROTECTION:

A. Before proceeding beyond this point in providing Temporary Enclosures:
   1. Provide Worker Protection per Section 01560
   2. Provide Respiratory Protection per Section 01562

B. Provide Personnel Decontamination Unit per Section 01563

3.7 CRITICAL BARRIERS:

A. Completely Separate the Work Area from other portions of the building, and the outside by closing all openings with two (2) layer sheet plastic barriers at least 6 mil in thickness each.

B. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the Work Area with two (2) layers of polyethylene sheeting at least 6 mil in thickness each, individually taped securely in place with duct tape. Maintain seal until all work including Project Decontamination is completed.

C. Provide two (2) layers of Sheet Plastic barriers at least 6 mil in thickness as required to seal openings

completely from the Work Area into adjacent areas. Individually seal the perimeter of each sheet plastic barrier with duct tape and spray cement.

D. Mechanically Support sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic sheeting. Following are acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Owner's Representative:

1. Plywood squares 6" x 6" x 3/8" held in place with one 6d smooth masonry nail or electro-galvanized common nail driven through center of the plywood and duct tape on plastic so that plywood clamps plastic to the wall. Locate plywood squares at each end, corner and at maximum 4 feet on centers.
2. Nylon or polypropylene rope or wire with a maximum unsupported span of 10 feet, minimum ¼" in diameter suspended between supports securely fastened on either side of opening at maximum 1 foot below ceiling. Tighten rope so that it has 2" maximum dip. Drape plastic over rope from outside Work Area so that a two foot long flap of plastic extends over rope into Work Area. Staple or wire plastic to itself 1" below rope at maximum 6" on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without a "shelf" upon which debris could collect.

E. Provide Pressure Differential System per Section 01513.

F. Clean equipment, housings and ducts of any overspray materials prior to erection of any Critical Barrier that will restrict access.

3.8 PREPARE AREA:

A. Scaffolding: If fixed scaffolding is to be used to provide access, HEPA vacuum and wet clean area prior to scaffolding installation.

B. Remove all electrical and mechanical items, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.

C. Remove all general construction items such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work. Clean, decontaminate and reinstall all such materials, upon completion of all removal work with materials, finishes, and workmanship to match existing installations before start of work.

D. Clean all furniture, equipment, and or supplies with a HEPA filtered vacuum cleaner or by wet cleaning, as specified in Section 01712 Cleaning and Decontamination Procedures, prior to being moved or covered. All equipment, furniture, etc. is to be deemed contaminated unless specifically declared as uncontaminated on the drawings or in writing by Environmental Consultant.

E. Clean all surfaces in the Work Area with a HEPA filtered vacuum or by wet wiping prior to the installation of the primary barrier.

3.9 PRIMARY BARRIER:

A. Protect building and other surfaces in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.

B. Sheet Plastic: Protect floor surfaces in the Work Area with two (2) layers of six (6) mil plastic sheeting

and wall surfaces with one (1) layer of six (6) mil. thick plastic sheeting, or as otherwise directed on the Contract Drawings.

1. Cover Floor of Work Area with 2 individual layers of polyethylene sheeting, each at least 6 mil in thickness. The first layer shall extend up the wall at least 12 inches. The second layer shall extend up the wall at least 24 inches. Form a sharp right angle bend at the junction of the floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Sheeting shall be sized to minimize seams. Install sheeting so that top layer can be removed independently of bottom layer.
2. Cover carpeting with three (3) layers of polyethylene sheeting at least 6 mil in thickness. Place corrugated cardboard sheets between the top and middle layers of polyethylene floor sheeting.
3. Cover all walls in the Work Area including "Critical Barrier" sheet plastic barriers with one layer of polyethylene sheeting, at least 6 mil in thickness, mechanically supported and sealed with duct tape and spray-glue, so as to overlap floor sheeting by at least 18 inches in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with duct tape.
4. All vertical and horizontal surfaces except those of asbestos-containing materials shall be sealed with polyethylene sheeting.
5. Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide ¾" exterior grade plywood treads securely held in place, over the plastic. Do not cover rungs or rails with any type of protective materials.
6. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

3.10 STOP WORK:

A. If the Critical or Primary barrier falls or is breached in any manner stop work immediately. Do not resume work until authorized in writing by the Industrial Hygienist.

3.11 EXTENSION OF WORK AREA:

A. Extension of Work Area: If a Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add the affected area to the Work Area, enclose it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

3.12 SECONDARY BARRIER:

A. Use a secondary layer of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work as specified in the appropriate work sections.

3.13 EXTERIOR ENCLOSURES:

A. Construct exterior enclosures utilizing rigid construction consisting of nominal 2x4 inch studs spaced 16 inches on center and covered with a minimum of one-half inch plywood or approved equal framing and board covering. The approved enclosure shall be covered with two (2) layers of 6 mil polyethylene sheeting.

END OF SECTION

SECTION 01560

WORKER PROTECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

A. This section describes the equipment and procedures required for protecting workers and site visitors against asbestos contamination and other workplace hazards except for respiratory protection.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. Respiratory Protection is specified in Section 01562.

1.4 WORKER TRAINING:

A. AHERA Accreditation: All workers are to be accredited as Abatement Workers as required by the AHERA regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

B. State and Local License: All workers are to be trained, certified and accredited as required by state or local code or regulation.

C. Train, in accordance with 29 CFR 1926, all workers in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. Include but do not limit the topics covered in the course to the following:
   1. Methods of recognizing asbestos.
   2. Health effects associated with asbestos.
   3. Relationship between smoking and asbestos in producing lung cancer.
   4. Nature of operations that could result in exposure to asbestos.
   5. Importance of and instruction in the use of necessary protective controls, practices and procedures to minimize exposure including:
      a. Engineering controls.
      b. Work practices.
      c. Respirators.
      d. Housekeeping procedures.
      e. Hygiene facilities.
      f. Protective clothing.
      g. Decontamination procedures.
      h. Emergency procedures.
      i. Waste disposal procedures.
   6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by 29 CFR 1910.134.

7. Appropriate work practices for the work.
8. Requirements of medical surveillance program.
9. Review of 29 CFR 1926.
10. Pressure Differential Systems.
11. Work practices including hands on or on-job training.
12. Personal Decontamination procedures.
13. Air monitoring, personal and area.

1.5 MEDICAL EXAMINATIONS:

A. Provide medical examinations for all workers who may encounter an airborne fiber concentration level of 0.1 fibers per cubic centimeter (f/cc) or greater for an 8 hour Time Weighted Average. In the absence of specific airborne fiber concentration data, provide medical examinations for all workers who will enter the Work Area for any reason. Examination shall as a minimum meet OSHA requirements as set forth in 29 CFR 1926 In addition, provide an evaluation of the individuals' ability to work in environments capable of producing heat stress in the worker.

1.6 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative for review, if requested. Do not start work until these submittals are approved by the Environmental Consultant.

B. AHERA Accreditation: Submit copies of certificates from an EPA-approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation 40 CFR 763 Appendix C to Subpart E, April 30, 1987.

C. State and Local License: Submit evidence that all workers have been trained, and are currently certified and accredited as required by state or local code or regulation.

D. Report from Medical Examination: Conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:
   1. Name and Social Security Number
   2. Physicians Written Opinion from examining physician including at a minimum the following:
      a. Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
      b. Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
      c. Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
   3. Copy of information that was provided to physician in compliance with 29 CFR 1926
   4. Statement that worker is able to wear and use the type of respiratory protection proposed for the project, and is able to work safely in an environment capable of producing heat stress in the worker.

E. Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 EQUIPMENT

2.1 PROTECTIVE CLOTHING:

A. Provide fire-retardant “Tyvek” disposable protective clothing consisting of full-body coveralls, head covers, and boots as required by the most stringent OSHA standards applicable to the work and as manufactured by DuPont or approved equal. Eye protection, gloves, and safety shoes shall be worn. They shall be in accordance with ANSI Z89.1 (1969) and ANSI Z41.1 (1967).

B. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

C. Goggles: Provide eye protectives (goggles) as required by OSHA for all workers involved in scraping, spraying, or any other activity which may potentially cause eye injury. Thoroughly clean, decontaminate and bag goggles before removing them from Work Area at the end of the work.

D. Gloves: Provide work gloves to all workers and require that they be worn at all times in the Work Area. Do not remove gloves from Work Area, dispose of as asbestos-contaminated waste at the end of the work.

2.2 ADDITIONAL PROTECTIVE EQUIPMENT:

A. Respirators, disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Owner's Representative, Project Consultants, and other authorized representatives who may inspect the jobsite. Provide two (2) respirators and six (6) complete coveralls and where applicable provide six (6) respirator filter changes per day. Sufficient HEPA cartridges for powered air-purifying respirators shall be provided for the workers to change during the work shift. No HEPA cartridges shall be used longer than three (3) eight (8) hour work shifts. The respirators shall be worn at all times when in the contaminated area. There shall be no exceptions.

PART 3 EXECUTION

3.1 GENERAL:

A. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

B. Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

3.2 DECONTAMINATION PROCEDURES:

A. Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:

1. Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:

    a. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

b. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:

1) Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.

2) With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.

3) Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.

4) Carefully wash face piece of respirator inside and out.

5) If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this may short out and destroy the battery.

6) Shower completely with soap and water.

7) Rinse thoroughly.

8) Rinse shower room walls and floor prior to exit.

c. Proceed from shower to Clean Room and change into street clothes or into new disposable work items.

B. Remote Shower: The procedures above are to be used if the decontamination facility is used as a remote shower. If a worker cannot gain direct access to the Equipment Room require that he enter Decontamination Unit and proceed directly through Shower Room to Equipment Room. Decontamination procedure is then completed as required above.

C. Within the Work Area: Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, then dress in street clothes before entering the non-Work Areas of the building.

END OF SECTION

SECTION 01562

RESPIRATORY PROTECTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF WORK:

A. Instruct and train each worker involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber levels encountered in the work area or as required for other toxic or oxygen-deficient situations encountered.

1.3 STANDARDS:

A. Except to the extent that more stringent requirements are written directly into the Contract Documents, the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

1. OSHA - U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards 29 CFR 1910, Section 1101 and Section 1910.134. 29 CFR 1926.58
2. CGA - Compressed Gas Association, Inc., New York, Pamphlet G-7, “Compressed Air for Human Respiration”, and Specification G-7.1 “Commodity Specification for Air”
3. CSA - Canadian Standard Association, Rexdal, Ontario, Standard Z180.1-00, “Compressed Breathing Air”
4. ANSI - American National Standard Practices for Respiratory Protection, ANSI Z88.2-1992
5. NIOSH - National Institute for Occupational Safety and Health
6. MSHA - Mine Safety and Health Administration

1.4 SUBMITTALS:

A. Before Start of Work submit the following to the Owner's Representative for review. Do not begin work until these submittals are approved by the Environmental Consultant.

B. Product Data: Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.

C. System Diagram: When a Type “C” supplied air respiratory system is required by the work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor.

D. Operating Instruction: Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.

E. Respiratory Protection Program: Submit Contractor's written respiratory protection program manual as required by OSHA 1926.58.

F. Resume information: Submit resume and information on training for individual monitoring the operation of supplied air respiratory systems. Submit training certifications where applicable.

1.5 DELIVERY:

A. Deliver replacement parts, etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

PART 2 EQUIPMENT

2.1 AIR PURIFYING RESPIRATORS:

A. Respirator Bodies: Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.

B. Filter Cartridges: Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for “Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists” and color coded in accordance with ANSI Z228.2 (1998). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

C. Non-permitted respirators: Do not use single use, disposable or quarter face respirators.

PART 3 EXECUTION

3.1 GENERAL:

A. Respiratory Protection Program: Comply with ANSI Z88.2 - 1992 “Practices for Respiratory Protection” and OSHA 29 CFR 1910 and 1926.

B. Require that respiratory protection be used at all times that there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental.

C. Require that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01714.

D. Regardless of Airborne Fiber Levels: Require that the minimum level of respiratory protection used shall be half-face air-purifying respirators with high efficiency (HEPA) filters.

E. Do not allow the use of single-use, disposable, or quarter-face respirators for any purpose.

3.2 FIT TESTING:

A. Initial Fitting: Provide initial fitting of respiratory protection during a respiratory protection course of

training set up and administered by a Certified Industrial Hygienist. Fit types of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing have been provided.

B. On a Weekly Basis, check the fit of each worker's respirator by having irritant smoke blown onto the respirator from a smoke tube.

C. Upon Each Wearing: Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 (1992).

3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED:

A. Provide respirator protection as follows:
   1. Negative pressure air-purifying respirators for all preparation, glove bag removal and Category I removal activities.
   2. Powered Air-Purifying Respirators: PAPR, positive pressure, full-face, or half-face respirators (if half-faced respirators are used, eye protection shall be provided by the Contractor).

3.4 PERMISSIBLE EXPOSURE LIMIT (PEL):

A. 8-Hour Time Weighted Average (TWA) of asbestos fibers to which any worker may be exposed shall not exceed 0.1 fibers/cubic centimeter.

3.5 RESPIRATORY PROTECTION FACTOR:

A. Respirator Type Protection Factor
   1. Air purifying: PF=10 - Negative pressure respirator High Efficiency filter half face-piece
   2. Air purifying: PF=50 - Negative pressure respirator High Efficiency filter full face-piece
   3. Powered Air Purifying (PAPR): PF=1000 - Positive pressure respirator High Efficiency filter Half or Full face-piece

3.6 AIR PURIFYING RESPIRATORS:

A. Air purifying - half or full face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior body of respirator, including head straps be washed each time a worker leaves the Work Area.

B. Powered air purifying full-face mask: Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, and be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

END OF SECTION

SECTION 01563

DECONTAMINATION UNITS

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

A. Refer to Section 01503 Temporary Facilities for electrical requirements and requirements relative to connection of decontamination facilities to building systems such as water and electrical.

1.3 SUBMITTALS:

A. Before the Start of Work: Submit the following to the Environmental Consultant for review. Do not begin work until these submittals are approved by the Environmental Consultant.

   a. Personnel Decontamination Unit: Provide shop drawing showing location and assembly of personnel decontamination units.

   b. Equipment Decontamination Unit: Provide shop drawing showing location and assembly of equipment decontamination units.

   c. Shower Pan: Provide shop drawing.

   d. Shower Walls: Provide product data.

   e. Shower Head and Controls: Provide product data.

   f. Filters: Provide product data and shop drawing of installation on decontamination unit.

   g. Hose Bib: Provide product data.

   h. Shower Stall: for Wash Down Station provide product data and shop drawing showing and modifications.

   i. Elastomeric membrane: Provide product data.

   j. Lumber: Provide product data on fire resistance treatment.

   k. Sump Pump: Provide product data.

   l. Signs: Submit samples of signs to be used.

PART 2 PRODUCTS

A. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6-mil thick as indicated, clear, frosted, or black as indicated.

B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6-mil thick as indicated, frosted or black as indicated.

C. Reinforced Polyethylene Sheet: Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701,

Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6 mil thick as indicated, frosted or black as indicated.

D. Duct Tape: Provide duct tape in 2” or 3” widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

E. Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

F. Shower Pan: Provide one piece stainless steel shower pan with a minimum 6” depth, or approved equal.

G. Shower Walls: Provide 8' long by approximately 7' high walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability.

H. Shower Head and Controls: Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Supply shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

I. Filters: Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

1. Primary Filter - Passes particles 20 microns and smaller.
2. Secondary Filter - Passes particles 5 microns and smaller.

J. Hose Bib: Provide heavy bronze angle type with wheel handle, vacuum breaker, and ¾” National Standard male hose outlet.

K. Shower Stall: For Wash Down Station provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bib, as specified in this section, mounted at approximately 4'-0” above drain pan. Connect drain to a reservoir, pump water from reservoir through filters to a drain or store and use for amended water. Mount filters inside shower stall on back wall beneath hose bib.

L. Elastomeric membrane: Provide uniform flat sheets of flexible sheet roofing material fabricated from EPDM (ethylene propylene diene monomers) or Neoprene (polychloroprene), in a nominal 45 mil thickness.

M. Lumber: Provide kiln dried lumber of any grade or species.

N. Sump Pump: Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3” remains between top of liquid and top of sump pan.

PART 3 EXECUTION

3.1 PERSONNEL DECONTAMINATION UNIT:

A. Provide a Personnel Decontamination Unit consisting of a serial arrangement of connected rooms or spaces, Clean Room, Shower Room, Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Provide temporary heating and lighting within Decontamination Units as necessary to provide safe and comfortable conditions. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretcher or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the work area.

B. Clean Room: Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.
   1. Construct using two (2) layers of opaque polyethylene sheeting, at least 6-mil in thickness, to provide an airtight seal between the Clean Room and the rest of the building.
   2. Locate so that access to Work Area from Clean Room is through Shower Room.
   3. Separate Clean Room from the building utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
   4. Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.
   5. Maintain floor of clean room dry and clean at all times. Do not allow overflow water from shower to wet floor in clean room.
   6. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
   7. Provide posted information for all emergency phone numbers and procedures.
   8. Provide 1 storage locker per employee.

C. Shower Room (contaminated area): Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading to the Work Area from the Clean Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.
   1. Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.
   2. Separate this room from the rest of the building with airtight walls fabricated of two (2) layers of opaque 6-mil polyethylene.
   3. Separate this room from the Clean Room utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
   4. Provide splash proof entrances to Clean Room with doors of flapped polyethylene.
   5. Provide shower head and controls supplied with hot and cold water adjustable within the shower.
   6. Provide a continuously adequate supply of liquid bath soap and shampoo and maintain in sanitary condition.
   7. Provide a continuously adequate supply of disposable bath towels.
   8. Arrange so that water from showering does not splash into the Clean or Equipment Rooms.
   9. Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.

10. Used filters shall be disposed of as asbestos-containing waste material.
11. Provide hose bib.

D. Equipment Room (contaminated area): Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

1. Separate this room from the Shower Room and the Work Area utilizing three (3) overlapping sheets of 6-mil polyethylene sheeting, weighted at the bottom.
2. Separate this room from the rest of the building with airtight walls fabricated of two (2) layers of opaque 6-mil polyethylene.
3. Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll the drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change with a clean drop cloth. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

E. Decontamination Sequence: Require that all workers and authorized visitors adhere to the following sequence when entering or leaving the Work Area.

1. All individuals that enter the work area shall sign the entry log, located in the clean room, upon each entry and exit.
2. Entering Work Area: Worker enters Clean Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.
    a. Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.
    b. Worker proceeds to Work Area.
3. Exiting Work Area:
    a. Before leaving the Work Area, require the worker to remove all gross contamination and debris from the outside of the respirator, and protective clothing by wet wiping and HEPA vacuuming.
    b. The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.
    c. Extra work clothing such as boots, hard hats, goggles, gloves are to be stored in contaminated end of the Equipment Room.
    d. Disposable coveralls are placed in a bag for disposal with other material.
    e. Require that Decontamination procedures found in Section 01560 be followed by all individuals leaving the Work Area.
    f. After showering, the worker moves to the Clean Room and dresses in either new coveralls for another entry or street clothes if leaving.

3.2 CONSTRUCTION OF THE DECONTAMINATION UNITS:

A. Walls and Ceiling: Construct airtight walls and ceiling using two (2) layers of polyethylene sheeting, at least 6-mil in thickness. Attach to existing building components or a temporary framework.

B. Floors: Use two (2) layers (minimum) of 6-mil polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.

C. Flap Doors: Fabricated from three (3) overlapping sheets with openings a minimum of four feet (4')

wide. Configure so that sheeting overlaps adjacent surfaces. Weigh sheets at bottoms so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of four feet (4') between entrance and exit of any room. Provide a minimum of four feet (4') between doors to airlocks.

D. If the Decontamination area is located at the exterior of the building, adjacent to occupied areas of the building or within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the decontamination unit with a protective shell as follows.
   1. Decontamination unit shall be framed with 2”x4” (min) fire-rated lumber at 16” on center.
   2. Walls and roof shall be covered with ½” (min) fire-rated plywood and all seams shall be caulked and sealed so as to provide an airtight barrier.
   3. The decontamination unit entrance shall be fitted with a lockable, louvered door.
   4. Two (2) layers of 6-mil polyethylene shall be applied to both sides of the airtight plywood enclosure.

E. Visual Barrier: Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the area adjacent to the Decontamination area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum 1/4 inch thick hardboard or 1/2 inch plywood. Where the solid barrier is provided, sheeting need not be opaque.

F. Alternate methods of providing Decontamination facilities may be submitted to the Owner's Representative for approval. Do not proceed with any such method(s) without written authorization of the Owner's Representative.

G. Electrical: Provide subpanel at Clean Room to accommodate all removal equipment. Power subpanel directly from a building electrical panel. Connect all electrical branch circuits to a ground-fault circuit protection device.

3.3 CLEANING OF DECONTAMINATION UNITS:

A. Clean debris and residue from inside of Decontamination Units on a daily basis. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.

B. If the Clean Room of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Clean Room as an inner section of the new Equipment Room.

3.4 SIGNS:

A. Post an approximately 20 inch by 14 inch manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:
   1. Provide signs in both English and Spanish.
   2. Legend:

DANGER - ASBESTOS
CANCER AND LUNG DISEASE HAZARD
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

3. Provide spacing between respective lines at least equal to the height of the respective upper line.
4. Post an approximately 10 inch by 14 inch manufactured sign at each entrance to each Work Area displaying the following legend with letter sizes and styles of a visibility at least equal to the following:
5. Provide signs in both English and Spanish.

LEGEND	NOTATION
NO FOOD, BEVERAGES OR TOBACCO PERMITTED	3/4" Block
ALL PERSONS SHALL DON PROTECTIVE CLOTHING (COVERINGS) BEFORE ENTERING THE AREA	3/4" Block
ALL PERSONS SHALL SHOWER IMMEDIATELY AFTER LEAVING WORK AREA AND BEFORE ENTERING THE CHANGE AREA	3/4" Block

END OF SECTION

SECTION 01711

PROJECT DECONTAMINATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1.2 DESCRIPTION OF REQUIREMENTS:

A. General: Decontamination of the Work Area following asbestos abatement.
   1. If the asbestos abatement work is on damaged or friable materials the work is a three step procedure with two cleanings of the Primary Barrier plastic prior to its removal and one cleaning of the room surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all materials are considered damaged or friable for purposes of this section.
   2. Operation of the pressure differential system is used to remove airborne fibers generated by the abatement work.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. Removal of Gross Debris is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:
   1. Section 02081 Removal of Asbestos-Containing Materials.

B. Work Area Clearance: Air testing and other requirements which must be met before release of Contractor and re-occupancy of the work area are specified in Section 01714 Work Area Clearance.

PART 2 PRODUCTS

2.1 GENERAL:

A. Encapsulant shall be an asbestos binding compound such as Serpiflex Shield from Grace Construction Products or approved equal.

PART 3 EXECUTION

3.1 GENERAL:

A. Work of This Section includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials in the space.

B. Work of This Section includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:
   1. Primary and Critical Barriers erected by work of Section 01526.
   2. Decontamination Unit erected by work of Section 01563.

3. Pressure Differential System installed by work of Section 01513.

C. Work of this Section includes the cleaning, and decontamination of all surfaces (ceiling, walls, floors) of the Work Area, and all furniture or equipment in the Work Areas.

3.2 START OF WORK:

A. Previous Work: During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.

B. Start of Work: Work of this section begins with the cleaning of the Primary Barrier. At start of work the following will be in place:

1. Primary Barrier: Two layers of polyethylene sheeting on floor and one layer on walls and ceilings.
2. Critical Barrier: An airtight barrier between the Work Area and other portions of the building or the outside.
3. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.
4. Decontamination Units: For personnel and equipment in operating condition.
5. Pressure Differential System: In operation.

3.3 FIRST CLEANING:

A. First Cleaning: Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.

B. Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 Disposal of Asbestos-Containing Waste Material.

C. Wait twelve (12) hours to allow HEPA-equipped air filtration units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain Pressure Differential System in operation for the entire period.

D. After completion of the first cleaning operation of the facility, the Contractor shall give written notification to the Industrial Hygienist that a pre-encapsulation inspection is needed.

E. The industrial hygienist shall perform a visual inspection of the work area to ensure that it is dry and dust free.

F. After approval by the industrial hygienist, the Contractor shall spray coat all dried exposed surfaces with a sealant. The surfaces to be coated shall include the polyethylene which has been used to cover walls, floors, ceilings and non-removable fixtures and equipment.

G. Encapsulation of substrate: Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, at this time. Maintain Pressure Differential System in operation during encapsulation work. Perform work only after meeting the following requirements:

1. Surfaces to be covered have met the requirements for a visual inspection in this section.

H. After the encapsulation of the polyethylene, the first layer shall be carefully removed and rolled up with the contaminated portion inside. All equipment, machinery, scaffolding, tools, etc. within the isolated work area shall be cleaned with amended water, moved to the equipment room, and properly removed from the work area.

3.4 SECOND CLEANING:

A. Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.

B. Removal of Primary Barriers:

1. Immediately following the second cleaning of the remaining layer of Primary plastic, remove all Primary Barrier sheeting and Material Decontamination Unit, if there is one, leaving only:
    a. Critical Barrier: Which forms the sole barrier between the Work Area and other portions of the building or the outside.
    b. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.
    c. Decontamination Unit: For personnel, in operating condition.
    d. Pressure Differential System: Maintain in continuous operation.

3.5 FINAL CLEANING:

A. Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleanings.

B. The Contractor shall request that a final clean up inspection be performed to insure all visible asbestos has been removed, the area is dust free and that the work area may have Post Removal Sampling. The Industrial Hygienist and the Contractor shall perform a complete visual inspection of the entire work area including:

1. Decontamination Unit.
2. Primary seals and critical barriers over ventilation openings, doorways, windows, and other openings.

C. Look for debris from any sources, residue on surfaces, dust or other matter. If any such debris, residue, dirt or other matter is found, repeat the final cleaning and continue decontamination procedure from that point.

D. When the area is visually determined to be clean and dry, post removal air sampling shall be performed.

E. During inspection time allow HEPA-equipped air filtration units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Areas during this period. Maintain Pressure Differential System in operation for the entire period.

F. The polyethylene sheeting used to maintain critical barriers between work areas and clean areas such as doorways, windows and air vents shall be sprayed with encapsulant, but not removed until air monitoring is completed and satisfactory results have been received. (Lockback)

3.6 VISUAL INSPECTION:

A. Temporary lighting: Provide a minimum of 100 foot candles of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles at 4 feet capable of reaching all locations in work area.

B. Lifts: Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

3.7 FINAL AIR SAMPLING:

A. After the work area is found to be visually clean, air samples will be taken and analyzed in accordance with the procedures for PCM or TEM set forth in Section 01714 Work Area Clearance:
   1. If Release Criteria are not met, repeat Final Cleaning and continue Decontamination Procedure from that point.
   2. If Release Criteria are met, proceed to work of this Section on Removal of Work Area Isolation.

3.8 REMOVAL OF WORK AREA ISOLATION:

A. After all requirements of this section and Section 01714 Work Area Clearance have been met:
   1. Shut down and remove the Pressure Differential System. Seal HEPA-equipped air filtration units, HEPA vacuums and similar equipment with 6-mil polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.
   2. Remove Personnel Decontamination Unit.
   3. Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Owner's Representative, are found then the entire area affected shall be decontaminated as specified herein.
   4. Remove all equipment, materials, and debris from the work site.
   5. Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Asbestos Containing Waste Material.

3.9 SUBSTANTIAL COMPLETION OF ABATEMENT WORK:

A. Asbestos Abatement Work is Substantially Complete upon meeting the requirements of this section and Section 01714 Work Area Clearance, including submission of:
   1. Certificate of Visual Inspection.
   2. Receipts Documenting proper disposal as required by Section 02084 Disposal of Asbestos-Containing Waste Material.
   3. Punch list detailing repairs to be made and incomplete items.

END OF SECTION

SECTION 01714

WORK AREA CLEARANCE

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

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

1. Visual Inspection: required as a prerequisite of air testing, is set forth in Section 01711 Project Decontamination.
2. Air Monitoring: performed by the Environmental Consultant during abatement work, is described in Section 01410 Test Laboratory Services.

1.2 SUMMARY:

A. Not in Contract Sum:

1. This section describes work being performed by the Environmental Consultant. This work is not in the Contract Sum.
2. This Section sets forth required post-abatement airborne asbestos concentrations in the Work Area and describes testing procedures the Environmental Consultant will use to measure these levels.

1.3 CONTRACTOR RELEASE CRITERIA:

A. The Asbestos Abatement Work Area is cleared when the Work Area is visually clean and airborne asbestos structure concentrations have been reduced to the level specified below.

1. PCM clearance criteria shall be 0.010 fibers per cubic centimeter (f/cc), or
2. TEM clearance criteria shall be ≤ 70 structures per millimeter squared (S/mm^2) average for all collected samples.

1.4 CLEARANCE CRITERIA FAILURE:

A. Costs associated with the initial round of clearance sampling for each work area are not part of, and shall not be included in the Asbestos Contractor's Contract Sum.

B. In the event of clearance criteria failure, the Asbestos Contractor shall re-clean the work area in accordance with the specification and as directed by the Industrial Hygienist. All re-cleaning activities shall be performed at the Asbestos Contractor's expense. Additionally, all costs associated with subsequent clearance testing shall be deducted from the Asbestos Contractor's Contract Sum. The unit price schedule for air monitoring and analytical services are as follows:

- IH/ Environmental Consultant Labor - $160.00/hour
- PCM Sample - $20.00/sample
- TEM Sample - $100.00/sample

1.5 VISUAL INSPECTION:

A. Work of this Section will not begin until the visual inspection described in Section 01711 Project Decontamination is complete and has been certified by the Project Administrator.

1.6 AIR MONITORING:

A. To determine if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Environmental Consultant will secure samples and analyze them according to the following procedures:

1. PCM samples will be secured and analyzed as indicated below.
2. Transmission Electron Microscopy will be performed using the analysis methodology set forth in the AHERA regulation 40 CFR Part 763 Appendix A, SUBPART E.
3. Work Area Clearance: upon meeting the PCM Clearance or TEM Clearance requirements noted in 1.3 above, the work of Section 01711 Project Decontamination can continue.

1.7 SCHEDULE OF AIR SAMPLES:

A. General: The number and volume of air samples taken and analytical methods used by the Environmental Consultant will be in accordance with the following schedule. Sample volumes given may vary depending upon the analytical instruments used and site conditions.

1.8 LABORATORY TESTING:

A. PHASE CONTRAST MICROSCOPY: The services of a testing laboratory will be employed by the Environmental Consultant to perform laboratory analysis of the air samples. A microscope and technician may be set up at the job site, or samples will be sent by courier, so that verbal reports on daily air samples can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Environmental Consultant, the Owner and the Contractor.

B. TRANSMISSION ELECTRON MICROSCOPY: The services of a testing laboratory will be employed by the Environmental Consultant to perform laboratory analysis of the clearance air samples. Samples will be transported or sent by overnight mail, so that verbal reports on clearance air samples can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Environmental Consultant, the Owner and the Contractor.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 02081

REMOVAL OF ASBESTOS-CONTAINING MATERIAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of Contract, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

A. Installation of Critical and Primary Barriers, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.

B. Project Decontamination procedures after removal of the Secondary Barrier are specified in Section 01711 Project Decontamination.

C. Disposal of asbestos-containing waste is specified in Section 02084 Disposal of Asbestos-Containing Waste Material.

1.3 SUBMITTALS:

A. Before Start of Work: Submit the following to the Owner's Representative for review. Do not start work until these submittals are approved by the Environmental Consultant.

1. Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.
2. Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.
3. NESHAP Certification: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet Asbestos-Containing Materials to which it is applied as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).
4. Material Safety Data Sheet: Submit the Material Safety Data Sheet, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for each surfactant, encapsulating material and solvent proposed for use on the work. Include a separate attachment for each sheet indicating the specific worker protective equipment proposed for use with the material indicated.

PART 2 PRODUCTS

A. Wetting Materials: For wetting prior to disturbance of Asbestos-Containing Materials use either amended water or a removal encapsulant:

1. Amended Water: Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50% polyoxyethylene ester and 50% polyoxyethylene ether mixed with five gallons of water.

2. Removal Encapsulant: Provide a penetrating type encapsulant designed specifically for removal of Asbestos-Containing Material. Use a material which results in wetting of the Asbestos-Containing Material and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50% polyoxyethylene ester and 50% polyoxyethylene ether in five gallons of water.

B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil thick as indicated, frosted or black as indicated.

C. Duct Tape: Provide duct tape in 2” or 3” widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

E. Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Asbestos-containing Waste Material.

F. Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.

G. Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

PART 3 EXECUTION

3.1 WORKER PROTECTION:

A. Before beginning work with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.2 GENERAL PROCEDURES FOR THE REMOVAL OF ASBESTOS-CONTAINING MATERIALS:

A. Preparation work for the removal of the identified asbestos-containing materials can utilize full containment with three-stage personnel decontamination units, air filtration units and digital negative air pressure differential monitoring systems and shall be performed utilizing respiratory protection and proper Personal Protective Equipment (PPE). Preparation work shall only be deemed to be complete and acceptable following a satisfactory inspection by the Environmental Consultant. Approval to proceed with removal activities shall be required in writing prior to commencing removal activities.

B. Preparation work for the removal of the identified non-friable asbestos-containing floor tile, floor tile mastic, air handler caulk, duct seam caulk, black cement windowsill, and pink sink undercoating shall utilize modified containment with a remote three-stage personnel decontamination unit and shall be performed utilizing respiratory protection and proper Personal Protective Equipment (PPE). Preparation should also include work area isolation utilizing asbestos danger tape and drop clothes.

C. Preparation work for the removal of the identified non-friable roof seam tar silver paint layer, and exterior concrete wall expansion caulk shall utilize modified exterior containment with a remote three-stage personnel decontamination unit and shall be performed utilizing respiratory protection and

proper Personal Protective Equipment (PPE). Preparation should also include work area isolation utilizing asbestos danger tape and drop clothes.

D. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

E. Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels.

F. Asbestos-containing material, removed by hand tools and roofing plow, shall be manually removed by scraping or cutting the saturated material from the base substrate.

G. Removal of the asbestos material shall be done in small sections by two-person teams, on staging platforms if needed. The wet material from each section shall be packed and sealed into labeled 6-mil polyethylene bags. When possible, one worker shall remove and hand sections of asbestos material to the other worker who shall then place the material into labeled 6-mil polyethylene bags.

H. Asbestos-containing and asbestos-contaminated materials located more than ten (10) feet above the floor shall be dropped into dust free enclosed inclined chutes, or dropped onto scaffolding, or containerized at that height for eventual disposal. Maximum inclination for chutes shall not exceed 60 degrees from horizontal. Asbestos-containing materials shall not be dropped or thrown to the floor from more than ten (10) feet. Asbestos-containing materials shall be handled carefully. No asbestos is permitted to drop directly to the floor. Any unnecessary agitation of the material is strictly prohibited.

I. All asbestos-containing and asbestos-contaminated materials shall be removed. The Contractor shall take care that all asbestos has been removed from fasteners, channels of support systems, construction blocks, ductwork and piping, and all other hard to reach places.

J. As a method of organizing the asbestos removal work, workers shall begin working on the areas nearest to the decontamination unit and work toward the air filtration units.

K. Operations shall be continuous so that once an area is started it shall be worked on to the first wet wipe. The wet material from each section shall be packed and sealed into labeled 6-mil polyethylene bags and double bagged with visible labels prior to starting the next section. Water-soaked fallen material shall be picked up while wet to prevent water loss due to evaporation.

L. Maintain good housekeeping so as not to accumulate loose asbestos.

M. Reach the clean wipe state as quickly as possible.

N. Remove the residues as quickly as possible so as not to walk or track through it, thus grinding it to smaller, more potentially dangerous sizes.

O. Place the asbestos into labeled 6-mil polyethylene bags as quickly as possible so as not to allow asbestos to dry out and become airborne. Bags shall be handed down or chuted down carefully from one worker to another.

P. Contaminated material containing sharp edged items shall be cut to size while adequately wet, placed in small cardboard boxes or burlap bags and then double bagged, or alternatively double

bagged and then placed within 6-mil lined fiber drums, the integrity of which is the Contractor's responsibility.

Q. Bags/drums shall be marked with the labels prescribed by 40 CFR Part 61 Section 61.150 of the EPA regulations. The outside of all containers shall be wet cleaned or HEPA vacuumed before leaving the work area.

R. After removal, the underlying material shall be brushed with a stiff, nylon bristle brush. Wire brushes are not permitted; asbestos fiber bundles break into smaller more hazardous fiber sizes when a wire brush is utilized. After the material is brushed, it shall be wet wiped with amended water. Only 100% removal will be accepted.

S. The contractor shall submit product information to the Owner for approval prior to application of encapsulant on the floor or duct surfaces.

3.3 GENERAL PROCEDURES FOR THE REMOVAL OF ASBESTOS-CONTAINING NON-FRIABLE CATEGORY I ROOFING MATERIALS:

A. Removal/impacting of roofing that includes the asbestos-containing silver paint layer on the seam tar shall be done in a manner that maintains the material in a non-friable state. No grinding, sanding, abrading, or cutting with serrated-edge hand tools is permitted. EPA notification Is not required if the material remains non-friable using proper work practices.

B. Work practices described in OSHA 29 CFR 1926.1101 sections (g)(8) and (g)(11) shall be followed including training, competent person requirements, conducting exposure assessments, setting up a regulated area if required, proper work practices, use of PPE (if required), isolation and shut down of roof level air intakes, and disposal of materials in a landfill that accepts Category I non-friable material.

C. Materials must be kept adequately wet during removal and lowered to the ground.

END OF SECTION

SECTION 02084

DISPOSAL OF ASBESTOS-CONTAINING WASTE

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

A. General provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

B. Section 01092 Codes and Regulations - Asbestos Abatement describes applicable federal, state and local regulations.

1.2 DESCRIPTION OF THE WORK:

A. This section describes the disposal of Asbestos-Containing Materials. Disposal includes proper packaging of asbestos-containing waste materials.

1.3 SUBMITTALS:

A. Before Start of Work: Submit the following to the Environmental Consultant for review. Do not start work until these submittals are approved by the Environmental Consultant.
   1. Copy of state or local license for waste hauler.
   2. Name and address of landfill where non-friable and friable asbestos-containing waste materials are to be buried. Include contact person and telephone number.
   3. Chain of Custody form and form of waste manifest proposed.
   4. Sample of disposal bag and any added labels to be used.

B. Submit copies of all manifests and disposal site receipts to the Environmental Consultant on a weekly basis.

PART 2 PRODUCTS

2.1 Disposal Bags: Provide 6 mil thick leak-tight polyethylene bags labeled with four labels with text as follows:

A. First Label:

CAUTION: CONTAINS ASBESTOS FIBERS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

B. Second Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication Standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE ASBESTOS, TREMOLITE, ANTHOPHYLLITE, OR
ACTINOLITE FIBERS IS HAZARDOUS TO YOUR HEALTH

C. Third Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances: Final Rule. Published November 21, 1986 and revised February 17, 1987:

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS,
ORM-E, NA 9188
(ASBESTOS)

D. Fourth Label: Provide in accordance with 40 CFR Part 61 Asbestos NESHAP revision; Final Rule dated November 20, 1990.

NORRISTOWN PUBLIC LIBRARY
1001 POWELL STREET
NORRISTOWN, PA 19401

PART 3 EXECUTION

3.1 GENERAL:

A. Comply with the following sections during all phases of this work:
   1. Section 01560 Worker Protection - Asbestos Abatement.
   2. Section 01562 Respiratory Protection.

B. All waste is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.

C. Load out of waste material shall occur at times of least occupancy of the buildings. Load all asbestos-containing waste material in disposal bags or leak-tight drums. All materials are to be contained in one of the following:
   1. Two 6 mil disposal bags.
   2. Two 6 mil disposal bags and a fiberboard drum.

D. Protect interior of truck or dumpster with 6 mil polyethylene sheeting.

E. Carefully load containerized waste into fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.

F. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.

G. Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as asbestos-containing waste and dispose of in accordance with this specification.

H. Advise the landfill operator or processor, at least ten days in advance of transport, and the quantity of material to be delivered.

I. At a disposal site unload containerized waste. Sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for re-bagging. Clean and decontaminate entire truck and contents.

J. Retain receipts from landfill or processor for all disposed materials.

K. At completion of hauling and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to the Environmental Consultant.

END OF SECTION

APPENDIX A

Pre-Renovation Asbestos Building Survey

July 24, 2024 – REV August 20, 2025 & October 31, 2025

GRMNP24004

Greenman-Pedersen, Inc
Attn: Frank Summa, P.E.
52 Glenmaura National Boulevard, Suite 302
Scranton, PA 18507

RE: ENVIRONMENTAL BUILDING SURVEY
NORRISTOWN PUBLIC LIBRARY
1001 POWELL STREET
NORRISTOWN, PA 19401

Dear Mr. Summa:

Pennoni is providing this report to **Greenman-Pedersen, Inc (GPI)** documenting the results of the environmental building survey conducted at the above referenced location. Activities completed as part of the investigation included a survey and sampling of the Norristown Public Library for asbestos-containing materials (ACM), lead-based paint (LBP), and hazardous materials in preparation for the planned renovation project. At the request of the client, Pennoni returned on July 5, 2024 to conduct polychlorinated biphenyls (PCBs) caulk sampling. The building consists of two-stories and an estimated 75,000 of interior square footage.

PRE-CONSTRUCTION ASBESTOS SURVEY
Pennoni performed a pre-construction asbestos survey of the Norristown Public Library between June 3 and 12, 2024, inconsecutively, to identify accessible ACM that may be disturbed by the planned renovation project Additional sampling was completed on August 18, 2025 of interior materials and on October 10, 2025 of roofing materials. The survey was conducted by a team of Pennoni's United States Environmental Protection Agency (USEPA) trained Asbestos Building Inspectors (see Appendix A – Inspector Credentials) and trained industrial hygienists.

During the inspection, 170 samples of the following 52 identified suspect ACM systems were collected (see Appendix B – Field Inspection Forms and Appendix C – Site Photographs). The following suspect and assumed ACM, listed here by Homogeneous Identification Number (HID), was identified during the survey:

1. Tan Spray-Applied Fireproofing (NAD)
2. Generator Thermal Insulation (NAD)
3. Expansion Caulk (NAD)
4. Endcap Mastic (NAD)
5. Dark Brown Covebase Mastic (NAD)
6. Air Handler Caulk (**POS**)
7. Duct Seam Caulk (**POS**)
8. Off-White Spray-Applied Fireproofing (NAD)
9. Brick and Mortar (NAD) & Mastic (NAD)
10. 2'x4' Dot Fissure Ceiling Tile (NAD)
11. Joint Compound (NAD)
12. Drywall (NAD)
13. Fire Doors Gray (Non-Suspect)
14. 12"x12" Tan and Gray Marble Flor Tile (**POS**) and Mastic (**POS**)
15. 12"x12" White and Gray Marble Floor Tile (NAD) and Mastic (**POS**)
16. 12"x12" Gray and Brown Marble Floor Tile (NAD) and Mastic (**POS**)
17. Carpet Adhesive (NAD)
18. Ceramic Floor Wetbed (NAD)
19. Ceramic Wall Adhesive (NAD)
20. 2'x4' Smooth Dot Ceiling Tile, Gray Back (NAD)
21. Interior Wall Caulk (NAD)
22. Wall Board Adhesive (NAD)
23. Black Cement Window Sills (**POS**), Two Sizes
24. 12"x12" Tan Floor Tile (NAD) and Mastic (NAD)
25. 12"x12" Maroon Floor Tile (NAD) and Mastic (NAD)
26. Gray Floor Leveler (NAD)
27. 12"x12" Blue Floor Tile (NAD) and Mastic (NAD)
28. Mirror Adhesive (Not Present)
29. Pink Sink Undercoating (**POS**)
30. Ceiling Plaster (NAD) and Skim Coat (NAD)
31. 1st Floor, Tan Spray-Applied Fireproofing (NAD)
32. Interior Gray Coating on Perimeter Walls (NAD)
33. White Interior Window Caulk (NAD)
34. Black Interior Window/Edge Caulk (NAD)
35. Tan Covebase Mastic (NAD)
36. 12"x12" Tan Flake with Brown Floor Tile (NAD)

and Mastic (**POS**)
37. 2'x2' Ceiling Tile (NAD)
38. Brick Floor Expansion Caulk (NAD) and Backing (NAD)
39. Capstone Metal Cap Caulk (NAD)
40. Exterior Brick Expansion Caulk (NAD)
41. Roof Field (NAD)
42. Roof Flashing (NAD)
43. Roof Seam Tar – Silver Paint Layer (**POS**)
44. Pitch Pocket (NAD)
45. Terracotta (NAD) and Mortar (NAD)
46. Concrete Wall Exterior Expansion Caulk (**POS**)
47. Exterior Brick (NAD) and Mortar (NAD)
48. Glue Dots (NAD) Fiberglass Panels
49. Exterior Plaster Ceiling Expansion Caulk (NAD)
50. Fire Door (Red) Insulation (NAD)
51. Fire Door (Brown) Insulation (NAD)
52. Cork Board Adhesive (NAD)
53. Flashing Caulk (NAD)
54. Penetration Tar (NAD)
55. White Penetration Caulk (NAD)
56. Penetration Filler Caulk (NAD)
57. Grey Penetration Caulk (NAD)

*(NAD) – No Asbestos Detected; (**POS**) – Positive for Asbestos Content; (**ASSUM**) – Not Sampled/Assumed ACM*

The samples were analyzed for asbestos utilizing Polarized Light Microscopy (PLM) via EPA Method 600/R-93/116.

Analytical results indicate 10 of the sampled material systems were identified as asbestos. Four roofing materials were not sampled and are assumed to contain asbestos. Our findings are summarized in the table below with the full analytical certificates included in Appendix D.

Table 1 – Identified and Assumed Asbestos-Containing Materials
Norristown Public Library
1001 Powell Street
Norristown, PA 19401

Homogenous No. and Material	Location	Approx. Quantity	Type	Percentage	Condition
6. Air Handler Caulk	2nd Floor, Mechanical Room 222	500 SF	Chrysotile	5%	Good
	Total	**500 SF**			
7. Duct Seam Caulk	2nd Floor, Mechanical Room 222	1,000 SF	Chrysotile	3%	Good
	Total	**1,000 SF**			
14. 12"x12" Tan and Gray Marble Floor Tile and Mastic	2nd Floor, Hallway 227	800 SF	Chrysotile	Floor Tile – 5% Mastic – 5%	Good
	2nd Floor, Storage 226 #1	345 SF			Good
	2nd Floor, Storage 225	128 SF			Good
	2nd Floor, Closed Stacks 215	4,500 SF			Good
	Stair #3	180 SF			Good
	2nd Floor, Storage 208	60 SF			Good
	Stair #2 (storytelling storage)	144 SF			Good
	Stair #2 Exit	150 SF			Good
	1st Floor, Janitor's Closet 111	75 SF			Good
	Stair #4	300 SF			Good
	1st Floor, Community Room	2,400 SF			Good
	Total	**8,362 SF**			
15. Mastic associated with non-ACM 12"x12" White and Gray Marble Floor Tile	2nd Floor, Hallway 227	50 SF	Chrysotile	Mastic - 6% Floor Tile - NAD	Good
	2nd Floor, Storage 225	1 SF			Good
	2nd Floor, Kitchen, Room 210-216	10 SF			Good
	1st Floor, Employee Lounge	40 SF			Good
	1st Floor, Computer Room 128/122	480 SF			Good

Table 1 – Identified and Assumed Asbestos-Containing Materials Norristown Public Library 1001 Powell Street Norristown, PA 19401					
Homogenous No. and Material	**Location**	**Approx. Quantity**	**Type**	**Percentage**	**Condition**
	Total	**581 SF**			
16. Mastic associated with non-ACM 12"x12" Gray and Brown Marble Floor Tile	2nd Floor, Hallway 227	190 SF	Chrysotile	Mastic - 2% Floor Tile - NAD	Good
	Total	**190 SF**			
23. Black Cement Window Sill, Two Sizes	2nd Floor, Children's Stall 203	65 SF	Chrysotile	15%	Good
	2nd Floor, Storytelling	40 SF			Good
	Stair #2 (storytelling storage)	6 SF			Good
	2nd Floor, Work Room 210/Storage 213	9 SF			Good
	2nd Floor, Conference Room 214	6 SF			Good
	2nd Floor, Hallway	40 SF			Good
	1st Floor, Main Library and Office	400 SF			Good
	1st Floor, Employee Lounge	35 SF			Good
	1st Floor, Hall 114	5 SF			Good
	1st Floor, ILL Room 125	6 SF			Good
	1st Floor, Technical Processing 119 and Office 118	30 SF			Good
	1st Floor, Storage 124	4 SF			Good
	1st Floor, Extension Room 123	12 SF			Good
	Total	**658 SF**			
29. Pink Sink Undercoating	1st Floor, Employee Lounge	6 SF	Chrysotile	3%	Good
	1st Floor, Community Room Kitchen	6 SF			Good
	Total	**12 SF**			
36. Mastic associated with 12"x12" Tan Flake Floor Tile	Elevator (lobby, back hall, main library)	50 SF	Chrysotile	Mastic – 2% Floor Tile - NAD	Good
	Total	**50 SF**			
43. Roof Seam Tar (Silver Paint Layer)	Lower Roof, L-Shape	100 SF	Chrysotile	2-3%	Good
	Upper Roof	300 SF			Good
	Total	**400 SF**			
46. Exterior Concrete Wall Expansion Caulk	Exterior of Building	50 SF	Chrysotile	2%	
					Good
	Total	**50 SF**			

LEAD-BASED PAINT SCREENING

A lead-based paint screening was conducted under the direction of one of Pennoni's Commonwealth of Pennsylvania licensed Lead Inspector/Risk Assessors (see Appendix A – Inspector Credentials).

The screening were generally performed following the United States Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing – July 2012. Sampling was conducted on the interior and exterior surfaces but should not be considered a full LBP inspection.

The testing was performed on-site utilizing a SciAps X-550 portable x-ray fluorescence lead-in-paint analyzer (XRF). Homogeneous painted surfaces were scanned with the handheld XRF which yielded readings of lead content of tested paint.

The XRF results are based on the Performance Characteristic Sheets (PCS). Please refer to Appendix E for the instrument performance characteristic sheet.

HUD and USEPA define lead-based paint as a painted surface containing greater than or equal to one milligram of lead per square centimeter (1.0 mg/cm^2) as measured by a hand-held XRF lead-in-paint analyzer or greater than or equal to 0.5% by weight as measured by laboratory analysis of collected paint chip samples (see components designated as red in Appendix F – Lead-Based Paint Data).

Occupational Safety & Health Administration (OSHA) regulation 24 CFR 1926.26 OSHA Lead in Construction Standard has established a threshold of any level of lead above the detection level is defined as lead containing (i.e., greater than 0.0 ug/cm^2). XRF readings between 0.1 ug/cm^2 and 0.9 ug/cm^2 have been identified as OSHA positive (see components designated as blue in Appendix F – Lead-Based Paint Data).

Results indicate that none of the tested components were identified as lead-based paint. Lead-containing paint (LCP) was identified on some of the tested components (see Appendix F – Lead-Based Paint Data).

The identified LCP was found to be in an intact condition. Paint of similar components should also be considered LCP if found in other parts of the building or were inaccessible. Removal of existing LCP is not required prior to renovation/demolition; however, contractors performing renovations/demolition should be notified that LCP is present. Contractors should be instructed to follow applicable OSHA regulations regarding working with LCP.

HAZARDOUS EQUIPMENT INVENTORY
Pennoni conducted a hazardous material survey of the building between June 3 and 5, 2024 to identify and quantify the following hazardous/regulated materials (see Appendix G – Hazardous Materials Inventory).

Fluorescent Light Tubes and Ballasts
In a fluorescent light tube, an electric current stimulates mercury atoms which then release ultraviolet photons. These photons, in turn, stimulate a phosphor powder causing it to "fluoresce" or emit visible light. The small amount of mercury present in the tubes, approximately four (4) grams, may pose an environmental hazard because mercury is a potent nerve toxin that can damage the brain, liver, and kidneys, and cause developmental disorders in children. Approximately 12 linear feet (LF) of two-foot fluorescent light tubes, 13,892 LF of four-foot fluorescent light tubes, 56 each U-shape fluorescent light tubes and 46 each compact fluorescent light tubes were observed throughout our inspection.

Light ballasts provide a positive resistance that limits the flow of electric current to an appropriate level in a negative resistance device, such as a fluorescent light. Ballasts may contain polychlorinated biphenyls (PCBs), a class of organic compounds that have a wide range of congeners which may cause adverse health effects such as chloracne, rashes, or liver damage. Prior to 1980 in the United States, PCB-based oils were used as a dielectric in capacitors in many types of ballasts associated with fluorescent light tubes. Approximately 1,196 each PCB-containing ballasts were observed throughout our inspection.

These materials should be disposed of in accordance with the USEPA's Resource Conservation and Recovery Act (RCRA).

Mercury Thermostats
Twenty-five exterior mercury-containing lights were observed throughout our inspection.

Emergency Light Batteries
Emergency lights are commonly equipped with lead-calcium batteries that can last up to ten (10) years. Lead-calcium batteries are resistant to corrosion, overcharging, off-gassing, water usage and self-discharge. These batteries also have a larger electrolyte reserve area above the plates, higher cold cranking ampere ratings, and little maintenance is required. Lead-calcium batteries pose an environmental risk because lead is a heavy metal that can be toxic in small amounts. Twenty emergency signs and emergency lights containing batteries were observed throughout our inspection.

Smoke Detectors

Typical smoke detectors in a commercial environment contain a small amount of radioactive material to detect the presence of smoke or heat sources. These "ion chamber smoke detectors" are the most popular because they are inexpensive and are sensitive to a wider range of fire conditions than other types. Generally, the radioactive source in these smoke detectors is a very small quantity (<35 kBq) of Americium-241 (Am-241). Seventy-six smoke detectors were observed throughout our inspection.

Ozone-Depleting Substances
The U.S. Clean Air Act of 1963 prohibits the venting of any refrigerant (i.e., Freon®) into the atmosphere during installation, service, or retirement of equipment. Therefore, all refrigerants must be recovered and recycled (for reuse in the same system), reclaimed (reprocessed to the same purity levels as new refrigerant) or destroyed. Pennoni conducted an inventory of ozone-depleting substances throughout the site. One miniature refrigerator, two miniature freezers and one drink machine were observed throughout our inspection.

Transformers/Capacitors/Hydraulic Equipment
Transformers and capacitors are typically manufactured as either dry or oil-filled types. A dry transformer and capacitor are not considered as much a hazard when compared to an oil-filled transformer or capacitor, which is filled with a dielectric fluid that may contain PCBs. PCBs, a class of organic compounds that have a wide range of congeners, may cause adverse health effects such as chloracne, rashes and liver damage. Dielectric fluid containing PCBs was used in transformers between the years of 1929 and 1977 because of their useful quality as a fire retardant. The majority of these PCB containing transformers were installed in apartments, residential and commercial buildings, industrial facilities, campuses and shopping centers constructed before 1978. The USEPA regulates the use, storage and disposal of PCB containing transformers. One dry transformer was observed throughout our inspection.

Miscellaneous
The following miscellaneous hazardous materials were observed:

- Lead acid batteries – 4 each
- Diesel generator – 1 each
- Elevator gears
- Compressor in garage – 1 each
- Printers - throughout

PCB SAMPLING

Pennoni collected a total of 11 samples of caulking and glazing materials were collected from the interior and exterior of the building. Samples were collected of the following:

3. Expansion Caulk
6. Air Handler Caulk
7. Duct Seam Caulk
21. Interior Wall Caulk
33. White Interior Window Caulk
34. Black Interior Window/Edge Caulk
38. Brick Floor Expansion Caulk
39. Capstone Metal Cap Caulk
40. Exterior Brick Expansion Caulk
46. Concrete Wall Exterior Expansion Caulk
49. Exterior Plaster Ceiling Expansion Caulk

Samples were properly labeled, packaged and submitted to EMSL for PCB analysis via EPA method SW-846/8082A. Analysis results were compared against the USEPA clean-up requirements for PCB content in building materials of 50 parts per million (ppm).

The analytical results indicated that all but two of the samples collected were non-detect for PCBs. However, two samples did contain detectable PCB concentrations less than 50 ppm. Sample PCB-3-1, expansion caulk contained PCBs at 2.7 ppm, and sample PCB-7-1, duct seam caulk contained PCBs at 5.8 ppm (see Appendix H – PCB Analytical Certificates).

Caulk containing PCBs at a concentration of 50 ppm or less qualifies as an excluded PCB product, and is not regulated by EPA. Best practice for managing these materials in place consists of adequate maintenance of materials to prevent deterioration.

LIMITATIONS

The goal of the environmental building of the Norristown Public Library was to identify readily accessible ACM, LBP or hazardous materials that may be impacted by the planned renovation project. Pennoni should be contacted immediately if renovation or demolition activities uncover materials that are not identified in this report.

This report is provided to assist with preparation for abatement for the planned renovation project. It is not intended to be used for contractor bidding. A Project Design Survey should be completed for the preparation of abatement plans and specifications.

If you have any questions concerning this report or require additional information, please feel free to contact us at 856-547-0505.

Sincerely,
PENNONI ASSOCIATES INC.

Richard G. Egner
Project Manager

Jeremy Humble
EHS Division Manager

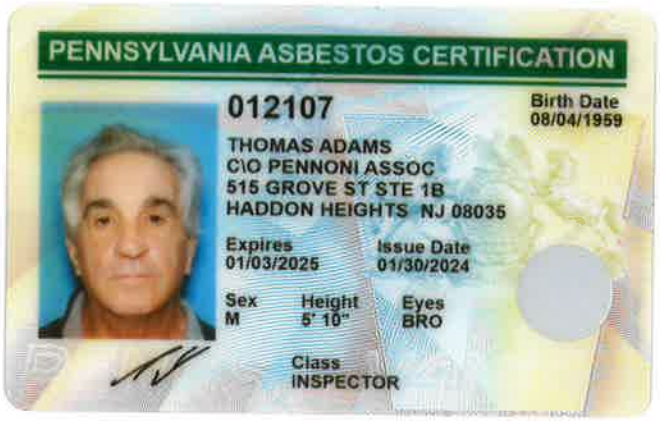
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Attachments
Appendix A – Inspector Credentials
Appendix B – Field Inspection Forms
Appendix C – Site Photographs
Appendix D – Asbestos Laboratory Analytical Certificates
Appendix E – XRF Performance Characteristic Sheet
Appendix F – Lead-Based Paint Data
Appendix G – Hazardous Materials Inventory
Appendix H – PCB Analytical Certificates

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APPENDIX A

Inspector Credentials


PENNSYLVANIA ASBESTOS CERTIFICATION
012107
Birth Date
08/04/1959
THOMAS ADAMS
C\O PENNONI ASSOC
515 GROVE ST STE 1B
HADDON HEIGHTS NJ 08035
Expires
01/03/2025
Issue Date
01/30/2024
Sex
M
Height
5' 10"
Eyes
BRO
Class
INSPECTOR

United States Environmental Protection Agency

This is to certify that



Thomas Adams

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires December 28, 2026

LBP-R-I182289-3

Certification #

July 14, 2023

Issued On

Adrienne Priselac, Manager, Toxics Office

Land Division

PENNSYLVANIA ASBESTOS CERTIFICATION



053803

Birth Date
09/23/1988

RICHARD G EGNER
14 S FRANKLIN AVENUE
BERLIN NJ 08009

Expires
01/04/2025

Issue Date
02/06/2024

Sex
M

Height
6' 02"

Eyes
BRO

Class
INSPECTOR

Certificate of Completion

awarded to

Richard Egner

for successfully completing the prescribed course of study in

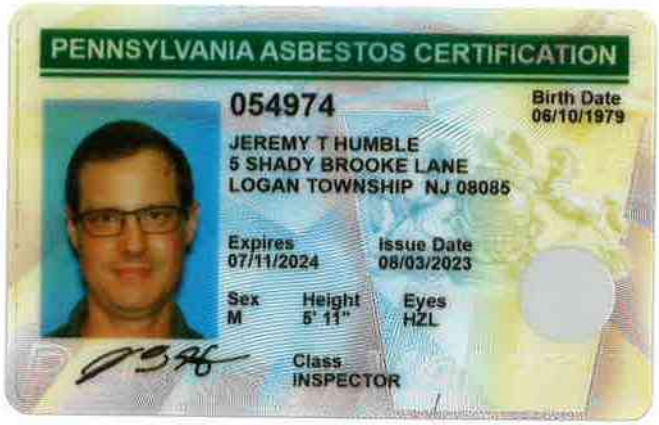
New Jersey Lead Inspector/Risk Assessor, Housing and Public Buildings

in accordance with EPA and HUD Guidelines

presented by

ACCESS TRAINING SERVICES, INC.
7921 River Road, Pennsauken, New Jersey 08110
(856) 665-3449

11/14-18/22	**11/18/22**	**11/18/24**
Course Date	*Exam Date*	*Expiration Date*
N/A	**ACC-1122-17-007**	*Mark K. Schläger*
Social Security Number	*Certificate Number*	*Training Director*


PENNSYLVANIA ASBESTOS CERTIFICATION
054974
Birth Date
06/10/1979
JEREMY T HUMBLE
5 SHADY BROOKE LANE
LOGAN TOWNSHIP NJ 08085
Expires
07/11/2024
Issue Date
08/03/2023
Sex
M
Height
5' 11"
Eyes
HZL
Class
INSPECTOR


PENNSYLVANIA LEAD CERTIFICATION
059688
Birth Date
06/10/1979
JEREMY T HUMBLE
5 SHADY BROOKE LANE
LOGAN TOWNSHIP NJ 08085
Expires
11/10/2024
Issue Date
10/23/2023
Sex
M
Height
5' 11"
Eyes
HZL
Class
INSPECTOR


PENNSYLVANIA LEAD CERTIFICATION
059688
Birth Date
06/10/1979
JEREMY T HUMBLE
5 SHADY BROOKE LANE
LOGAN TOWNSHIP NJ 08085
Expires
11/10/2024
Issue Date
10/23/2023
Sex
M
Height
5' 11"
Eyes
HZL
Class
RISK ASSESSOR

PENNSYLVANIA ASBESTOS CERTIFICATION



065158

Birth Date
10/29/1991

JOSEPH J HAWK
234 ALLENS LANE
MULLICA HILL NJ 08062

Expires
02/28/2026

Issue Date
04/11/2025

Sex
X

Height
5' 07"

Eyes
BRO

Class
INSPECTOR

APPENDIX B

Field Inspection Forms

Pennoni

HOMOGENOUS MATERIALS LIST

Project Number: GRMNP 24004 Page 1 of

Site: Inspector: Rick Eg-

Building: Norristown Public Library Reviewed By: Tom Adams / Jeremy Hurtle

Floor: Date: 6/3/24 / 6/4/24

HID #	Material	Sample Number(s)	Photo
01	TAN Spray on Fireproofing	A,B,C,D,E,F,G	✓
02	Generator Thermal Insulation	A,B,C	✓
03	Expansion Caulk	A,B	✓
04	End Cap Mastic	A, B	✓
05	Mastic ALW COVEBASE (DARK Brown)	A, B, C	✓
06	Air Handler Caulk	A,B	✓
07	Duct Seam Caulk	A,B	✓
08	OFF White Fireproofing	A-E, F, G, H, I	✓
09/M	Brick / Mortar	A, MA, B, MA	✓
10	2X4 DOT Fissure Ceiling Tile	A, B	✓
11	Joint Compound	A B, C	✓
12	Drywall	AB	✓
13	Fire Doors	PACM	✓
14	12X12 TAN & Gray marble	A, MA, B MB	✓
15	12X12 White & Gray marble	A MA, B MB	✓
16	12x12 Gray & Brown marble	A MA B MB	✓
17	Carpet Adhesive	A B, C	✓
18	Wetbed ALW Ceramic floor	A B	✓
19	Well Adhesive ALW Ceramic	A B	✓
20	2X4 Smooth DOT CT (Gray Black)	A B	✓

Pennoni

HOMOGENOUS MATERIALS LIST

Project Number: GRMNP24004 Page 2 of

Site: Inspector: Rick Eg

Building: Normstown Public Library Reviewed By: Jeremy Thumb

Floor: Date: 6/4/24

HID #	Material	Sample Number(s)	Photo
21	Interior Window CAULK	A, B	✓
22	Wall Board Adhesive	PACM	✓
23	BLACK CEMENT WINDOW SILL	A, B	✓
24/m	12X12 TAN Floor Tile & Mastic	A, mA, B, mB	✓
25/m	12X12 Maroon FT /m	A mA, B, mB	✓
26	Gray floor Leveler	A, B, C	✓
27	12x12 Blue FT/m	AmABmB	✓
28	Mirror Adhesive	PACM	✓
29	Pink Sink Undercoating	A, B	✓
30	Ceiling Plaster	A-E	✓
31	SPRAY ON FIRE PROOFING 1ST FLR	A-E	✓
32	~~EXT~~ INT BRICK GRAY COATING ON PERIMETER WALLS	A, B,	✓
33	INTERIOR window CAULK WHITE	A, B	✓
34	" window/ledge II BLACK	A, B	✓
35	COVE MOLD ADH	A, B	✓
36	12X12 TAN Flake FT/ Brown	AmA BmB	✓
37	~~2x4~~ 2x2 Ceiling Tile	PB	✓
38	Brick FLOOR - Expansion Caulk	AB	✓
39	Capstone Mech Curb Caulk	AB	✓
40	Ext. Brick Expansion Caulk	AB	✓
41	Roof Field - Lower	PACM	✓

Pennoni

HOMOGENOUS MATERIALS LIST

Project Number: GRMNP240021 Page 3 of

Site: Inspector: RG

Building: Normandy Public Library Reviewed By: T Adams

Floor: Date: 6/5/24

HID #	Material	Sample Number(s)	Photo
42	Roof flashing	PACM	✓
43	Tar Pitch Pocket	PACM	✓
44	Pitch Pocket	PACM	✓
45	Terra Cotta & mortar	AB	✓
46	Concrete wall - Expansion Exterior Caulk	AB	✓
47	Exterior Brick / mortar	AB	✓
48	Glue Dots	AB	✓
49	Expansion Caulk A/W Plaster Ceiling	AB	✓

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Nomstown Public Library

Floor: 1nd

Inspector: Rick Egner

Reviewed By: Tom Adams

Date: 6/3/24

Page 1 **of**

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
01	TAN Spray on Fireproofing	2,600SF	Mech RM 224 (2nd floor)	D	A-G	F	1
02	Generator Thermal Insulation	15SF	" "	D	A, B, C	F	1
03	Expansion Caulk (Wall/Door)	50SF	" "	G	A D	NF2	1
04	End Cap Mastic	25SF	" "	G	A B	NF2	1
05	Mastic AIW CB (Dark Brown)	20SF	" "	G	A B	NF2	1
03	Expansion Caulk (Wall/Door)	50SF	Mech RM 222	G	H	NF2	1
04	End Cap Mastic	25SF	" "	G	H	NF2	1
05	Mastic AIW CB (Dark Brown)	20SF	" "	G	H	NF2	1
07	Duct Seam Caulk	500SF	" "	G	A B	NF2	1
06	Air Handler Caulk	100SF	" "	G	A B	NF2	1
08	OFF White Fire proofing	3500SF	" "	D	A, B, C, D, G	F	1
09	Brick & mortar	300SF	HALL 227/HALL 227	G	A, MA, B, MB	F	1
01	TAN Spray on FP	300SF	" "	D	F, G	F	1
10	2x4 DF CT	1530SF	" "	G	A B	F	1
05	Mastic AIW CB (Dark Brown)	180SF	" "	G	H	NF2	1
11	Joint Compound	4700SF	" "	G	A, B	F	1
12	DRYWALL	4700SF	" "	G	A, B	F	1
08	OFF White Spray on FP	3000SF	" "	D	F, G	F	1
12/14	12x12 TAN & Grey Marble FT/M	800SF	" "	G	A MA B MB	NF1	1
15	12x12 White Grey Marble FT/M	50SF	HALL 227	G		NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Morristown Public Library

Floor: 2nd

Inspector: Rick Eg

Reviewed By: Tom Adams

Date: 6/3/24

Page 2 **of**

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
16	12x12 Gray & Brown Marble FT/M	190SF	HALL 227	G		NF1	1
01	TAN Spray on FP	800SF	Storage 226 #1	G	H	F	1
11	Joint Compound	760SF	" "	G	H	F	1
12	Drywall	760SF	" "	G	H	F	1
10	2X4 DF CT	345SF	" "	G	H	F	1
14	12X12 TAN & Gray marble FT/M	345SF	" "	G	H	NF1	1
05	Mastic B/W CB (DARK Brown)	30SF	" "	G	H	NF2	1
11/12	Joint Compound / Drywall	480SF	Storage 225	G	H	F	1
14	TAN & Gray 12X12 FT/M	128SF	" "	G	H	NF1	1
10	2X4 DF CT	128SF	" "	G	H	F	1
08	Off White Spray on FP	300SF	" "	G	H	F	1
15	12x12 White Gray Marble FT/M	1SF	" "	G	A MA BMB	NF1	1
05	Mastic B/W CB (Dark Brown)	10SF	" "	G	H	NF2	1
01	TAN Spray on FP	300SF	Elevator Room	G	H	F	1
11/12	JC / Drywall	700SF	" "	G	H	F	1
05	Mastic B/W CB (DARK Brown)	10SF	" "	G	H	NF2	1
01	TAN Spray on FP	~~300SF~~ 500SF	Roof ACCESS RM 226 #2	G	H	F	1
11/12	JC / Drywall	1,110SF	" "	G	H	F	1
~~01~~	~~TAN Spray on FP~~	~~300SF~~	~~Storage RM # 226 #2~~	~~G~~	~~H~~	~~F~~	~~1~~
~~11/12~~	~~JC / Drywall~~	~~400SF~~	"	~~G~~	~~H~~	~~F~~	~~1~~

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Norristown Public Library

Floor: 2.

Inspector: Rick Eg

Reviewed By: Tom Adams

Date: 6/3/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	JC/Drywall	3300SF	Closed Stacks (215)	G		F	1
14	12x12 Tan & Gray marble FT/M	~~4,395SF~~ 4500	" "	G		NF1	1
05	Mastic A/W CB	300SF	" "	G		NF2	1
10	2x4 DF CT 450 SF	~~4,395SF~~	" "	G		F	1
08	OFF White Spray on FP	7,000 SF	" "	G		F	1
11/12	~~2x4~~ JC/Drywall	5,000SF	Stair #3	G		F	1
14	12x12 Tan & Gray FT/M	180SF	" "	G		NF1	1
05	Mastic A/W CB	180SF	" "	G		NF2	1
10	2x4 DF CT	460SF	" "	G		F	1
01	Tan Spray on FP	600SF	" "	G		F	1
17	Carpet Adhesive	430SF	HALL 221	G	AB	NF1	1
11/12	JC/Drywall	1820SF	" "	G		F	1
05	Mastic A/W CB	40 SF	" "	G		F	1
10	2x4 DF CT	430SF	" "	G		NF2	1
08	OFF White Spray on FP	800SF	" "	G		F	1
11/12	JC/Drywall	1500SF	Conference Rm 214	G		F	1
05	Mastic A/W CB	155F	" "			NF2	1
10	2x4 DF CT	630SF	" "			F	1
08	OFF White Spray on FP	~~1,000SF~~	" "			F	1
17	Carpet Adhesive	1030SF	" "			NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

168

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004
Site:
Building: Norristown Public Library
Floor: 2

Inspector: Rick Egner
Reviewed By: Tom Adams
Date: 6/3/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	JC / Drywall	2,000SF	RM 210, 210 Asst. Store 216 Secretarial Area	G	HF	F	1
08	Off white Spray on FP	300SF	" "	G		F	1
18	2x4 DF CT	1122SF	" "	G		F	1
05	Mastic A/W CB	40 SF	" "	G		NF2	1
17	Carpet Adhesive	1122SF	" "	G		NF1	1
18	wetset A/W Ceramic floor	30SF	Bathroom. For RM 210 216	G	HF	F	1
19	Wall Adhesive A/W Ceramic	180SF	" "	G	H	NF2	1
10	2x4 DF CT	30SF	" "	G	H	F	1
15	12x12 White & Gray marble FT/M	10SF	Kitchen - RM 210-216	G	H	NF1	1
11/12	JC / Drywall	80SF	" "			F	1
05	Mastic A/W CB	3SF	" "			NF2	1
10	2x4 DF CT	10SF	" "			F	1
11/12	JC / Drywall	640SF	Mens 219 / Womens 220	G	H	F	1
18	Wetset A/W Ceramic floor	160SF	" "	G	AB	F	1
19	Wall Adhesive Ceramic Wall	640SF	" "	G	AB	NF2	1
08	Off White Spray on FP	400SF	" "	G	H	F	1
20	2x4 Small DOT CT (Gray Backing)	160SF	" "	G	AB	F	1
11/12	JC / Drywall	520SF	Storage 212 (office)	G	H	F	1
08	Off white Spray on FP	300SF	" "	G	H	F	1
17	Carpet Adhesive	165SF		G	H	NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004
Site:
Building: Norristown Public Library
Floor: 2

Inspector: R. Eg
Reviewed By: T. Adams / Saranya Thumbe
Date: 6/3/24 / 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
05	mastic A/W CB	10SF	Storage 212 (office)	G	H	NF2	1
01	TAN Spray on FP	18,000SF	Children Stack 203	G	H	F	1
11/12	JC/Drywall	5,000SF	" "	G	H	F	1
05	mastic A/W CB	125SF	" "	G	H	NF2	1
17	Carpet Adhesive	11,250SF	" "	G	H	NF1	1
09/n	Brick & mortar	105SF	" "	G	H	F	1
01	TAN Spray on FP	600SF	Offices 204 & 207	G	H	F	1
11/12	JC / Drywall	840SF	" "			F	1
05	mastic A/W CB	20SF	" "			NF2	1
17	Carpet Adhesive	380SF	" "			NF1	1
10	2X4 DF CT	380LF	" "			F	1
14	RX12 TAN Gray FT/mastic	60SF	Storage 208	G	H	NF1	1
05	Mastic A/W CB	5SF	" "			NF2	1
11/12	JC / Drywall	440SF	" "			~~NF2~~	1
01	TAN Spray on FP	700SF	" "			F	1
10	2X4 DF CT	60LF	" "			F	1
10	2X4 DF CT	11,250LF	Childrens Stack 203	G	H	F	1
10	2X4 DF CT	164LF	Office 204			~~NF~~ F	1
17	Carpet Adhesive	164SF	" "			NF1	1
01	TAN Spray on FP	400SF	" "			F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Norristown Public Library

Floor: 2.

Inspector: Ryan Ely

Reviewed By: Jeremy Hunsle

Date:

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
22	Wall Board Adhesive	2005F	Office 204/207/209	G	PACM	NF2	1
11/12	JC/ Drywall	5105F	Office 209	G	(E)	F	1
05	~~Cart~~ Mastic ALW CB	105F	" "	G	(E)	NF2	1
21	Interior Window Caulk	60LF	Childrens Story 203	G	A,B	NF2	1
23	Black Cement Window sill	65SF	" "	G	NA	NF2	1
01	TAN Spray on FP	400SF	Office 211	G	(H)	F	1
11/12	JC/ Drywall	500SF	" "			F	1
10	2x4 DF CT	1164F	" "			F	1
17	Carpet Adhesive	1164SF	" "			NF2	1
05	Mastic ALW CB	200F	" "			NF2	1
24/m	12x12 TAN FT/M	461 SF	Story Telling 202	G	A, mix B, MB	NF1	1
25/m	12x12 Maroon FT/M	461 SF	" "		A MA B MB	NF1	1
26	Gray floor leveler	972SF	" "		A, B	F	1
014	TAN Spray on FP	1300SF	" "		(H)	F	1
10	2x4 DF CT	772SF	" "		(H)	F	1
11/12	JC/ Drywall	1300SF	" "		(H)	F	1
05	Mastic ALW CB	25SF	" "		(N)	NF2	1
27	12x12 Blue FT/M	50SF	" "		A Bip 3 MB	NF1	1
01	TAN Spray on FP	400SF	Stair #2 (Storage) Story Telling	G	(H)	F	1
10	2x4 DF CT	144 SF	" "		(H)	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Norristown Public Library

Floor: 2

Inspector: Rick Eg

Reviewed By: Jeremy Humble

Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
23	Block Cement WS	40 SF	Story Telling	G	D	NF2	1
11/12	JC/ Drywall	400SF	Stair # 2 (Storage) Story Telling	|	B	F	1
14	12X12 TAN & Gray Marble FT/M	144SF	" "	|	A	NF1	1
05	Mastic AIW CB	10SF	" "	|	B	NF2	1
23	Block Cement WS	6 SF	" "	G	H	NF2	1
18	Wetset AIW Ceramic floor	480SF	Mens 205 / Womens 208	|	H	F1	1
20	2X4 Smooth DoT CT	480SF	" "	↓	H	F	1
28	Mirror Adhesive	4SF	" "	G	PACM	NF2	1
19	Wall Adhesive A/W Ceramic Wall	1200SF	" "	G	H	NF2	1
01	TAN SPRAY on FP	800SF	" "	G	H	F	1
14	12X12 TAN & Gray marble FT/M 15%	~~100SF~~	Stair #2 Exit	G	H	NF1	1
11/12	JC/ Drywall	1500SF	" "	|	|	F	1
01	TAN SPRAY on FP	800SF	" "	|	|	F	1
05	Mastic AIW CB	10SF	" "	|	|	NF2	1
10	2X4 DF CT 200SF	~~400SF~~	" "	|	|	F	1
01	TAN SPRAY on FP	2000SF	Work Room 210/ Storage 213	G	H	F	1
11/12	JC/ DW 200SF	~~800SF~~	" "	|	|	F	1
10	2X4 DF CT	1200SF	" "	|	|	F	1
17	Carpet Adhesive	1200SF	" "	|	|	NF1	1
05	Mastic AIW CB	~~500SF~~	" "	|	|	NF2	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Poanstown Public Library

Floor: 2nd / 1st

Inspector: Rick Eg

Reviewed By: Jeremy Hamsher

Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
23	Black Cement Windowsill	9SF	Work Room 210/ Storage 213	G	(B)	NF2	1
23	" "	6 SF	Conference Rm 214	G	(E)	NF2	1
11/12	JC / Drywall	1,240SF	1st FLR Employee Lounge	G	(H)	F	1
15	12x12 White/Gray marble FTlm	~~1,240SF~~ 40SF	"	G	(H)	NF1	1
05	Mastic A/W CB	35 SF	" "	G	(A) C	NF2	1
10	2x4 DF CT	1160SF	" "	G	(H)	F	1
17	Carpet Adhesive	1,120SF	" "	G	(A) C	NF1	3
23	BLACK CEMENT WINDOW SILL	35SF	" "	G	(H)	NF2	1
29	PINK SINK UNDERCOATING	6SF	" "	G	A, B	NF2	1
26	GRAY FLOOR LEVELER	1,120SF	" UNDER 2 LAYERS CARPET	G	C	NF2	2 & 3
08	OFF WHITE SAF	1,800SF	" "	D/ 10	H, I	F	2
11/12	DW/JC	3500SF	HALL 114	G	(H)	F	1
05	MASTIC A/W CB	88SF	"	G	(H)	NF2	2
10	2x4 DF CT	966SF	"	G	(H)	F	1
17	CARPET ADHESIVE	~~896SF~~ 966SF	"	G	(H)	NF1	3
23	BLACK CEMENT WINDOW SILL	5SF	"	G	(H)	NF2	1
08	OFF-WHITE SAF	2,000SF	"	G	(H)	F	2
26	GRAY FLOOR LEVELER	966SF	"	G	(H)	NF2	3
05	MASTIC A/W CB	25SF	ILL RM 125	G	(H)	NF2	2
08	OFF WHITE SAF	800SF	"	G	(H)	F	2

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: NORRISTOWN PUBLIC LIBRARY

Floor: 1ST

Inspector: RICK EGNER

Reviewed By: JEREMY HUMBLE

Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
10	2x4 DF CT	510SF	ILL RM 125	G	H	F	1
11/12	DW/JC	1,000SF	"	G	H	F	1
17	CARPET ADHESIVE	510SF	" 2 LAYERS CARPET	G	H	NF1	3
23	BLACK CEMENT WINDOW SILL	6SF	"	G	H	NF2	1
26	GRAY FLOOR LEVELER	510SF	"	G	H	NF2	3
05	MASTIC A/W CB	60SF	RMS 119 & 118 TECHNICAL PROCESSING & OFFICE	G	H	NF2	1
08	OFF-WHITE SAF	4,100SF	"	G	H	F	2
10	2x4 DF CT	2,720SF	"	G	H	F	1
11/12	DW/JC	2,350SF	"	G	H	F	1
17	CARPET ADHESIVE	2,720SF	" UNDER 2 LAYERS CARPET	G	H	NF1	3
23	BLACK CEMENT WINDOW SILLS	30SF	"	G	H	NF2	1
05	MASTIC A/W CB	20SF	REFERENCE RM 113	G	H	NF2	1
08	OFF WHITE SAF	400SF	"	G	H	F	2
10	2x4 DF CT	260SF	"	G	H	F	1
11/12	DW/JC	660SF	"	G	H	F	1
17	CARPET ADHESIVE	260SF	" 2 LAYERS CARPET	G	H	NF1	3
05	MASTIC A/W CB	35SF	APT-RM FIRST AID RM 127	G	H	NF2	1
08	OFF-WHITE SAF	300SF	"	G	H	F	2
11/12	DW/JC	500SF	"	G	H, C	F	1
10	2x4 DF CT	160SF	"	G	H	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRNNP 24004
Site:
Building: NORRISTOWN PUBLIC LIBRARY
Floor: 1ST

Inspector: RICK EGNER
Reviewed By: J. HUMBUE
Date: 6/4/24 **Page** 10 **of**

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
17	CARPET ADHESIVE	160SF	ADULT-RM FIRST AID RM 127	G	(H)	NF2	3
08	OFF WHITE SAF	500SF	CADIES RM 116 / MENS RM 115	G	(H)	F	2
11/12	DW/JC	960SF	"	G	(H)	F	1
16	WET BED A/W CERAMIC TILE	288SF	"	G	(H)	NF2	2
19	WALL ADHESIVE A/W CERAMIC TILE	960SF	"	G	(H)	NF2	2
20	2x4 SMOOTH DOT CT	288SF	"	G	(H)	F	1
26	MIRROR ADHESIVE	24SF	~~MENS RM 115~~	G	(H) PACM	NF2	2
05	MASTIC A/W CB	8SF	JANITOR CLOSET 111	G	(H)	NF2	1
08	OFF WHITE SAF	400SF	"	G	(H)	F	2
10	2x4 DF CT	75SF	"	G	(H)	F	1
11/12	DW/JC	400SF	"	G	(H)	F	1
14/M	12x12 TAN & GRAY MARBLE CT & MASTIC	75SF	"	G	(H)	NF1	1
	Plaster Ceiling	3,000SF	Garage 117	G	A-	F	1
01	TAN SAF	2,000SF	" "	G	(H)	F	1
03	Expansion Caulk/Wall	20SF	" "	G	(H)	NF2	1
08	Off white Spray on FP	2000SF	Special Doc 112	G	(H)	F	1
11/12	JC/Drywall	1200SF	" "			F	1
17	Carpet Adhesive	840SF	" "			NF1	1
05	MASTIC D/W CB	30SF	" "			NF2	1
10	2x4 DF CT	840SF	" "			F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Norristown Public Library

Floor: 1st

Inspector: Rick S

Reviewed By: J. Hunsicker

Date: 6/24/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
26	Gray FLR Leveler	840SF	Special Doc 112	G	H	F	1
10	2x4 DF CT	350SF	HALL 120/127 Personal Sect.	"	"	F	1
01	TAN SAF	800SF	" "	"	"	F	1
03	Expansion Couch	20SF	" "	"	"	NF2	1
05	Mastic A/W CB	22SF	" "	"	"	NF2	1
11/12	JC/DW	450SF	" "	"	"	F	1
01	TAN SAF	400SF	Storage 121	G	H	F	1
10	2x4 DF CT	200SF	"	"	"	F	1
05	Mastic A/W CB	15SF	"	"	"	NF2	1
15	12x12 White/Gray FT mirror/mastic	48SF	Computer RM 128/122	G	H	NF1	1
01	TAN SAF	1000SF	"	"	"	F	1
11/12	JC/Drywall 1240SF	~~1240SF~~	"	"	"	F	1
05	Mastic A/W CB	31SF	"	"	"	NF2	1
10	2x4 DF CT	486SF	"	"	"	F	1
17	Carpet Adhesive	130SF	Storage 124	"	"	NF1	1
11/12	JC/DW	486SF	"	"	"	F	1
05	Mastic A/W CB	11SF	"	"	"	NF2	1
01	TAN SAF	600SF	"	"	"	F	1
23	Black Cement W/S	4SF	"	"	"	NF2	1
10	2x4 DF CT	130SF	"	"	"	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004
Site:
Building: Norristown Public Library
Floor: 1st

Inspector: Rick Egner
Reviewed By: Jeremy Humble
Date: 6/4/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	JC / DW	1640LF	Extension RM 123	G	(+0)	F	1
3/~~10~~	TAN SAF	3000SF	"	|	|	F	1
17	Carpet Adhesive	1680SF	"	|	|	NF1	1
05	Mastic A/W CB	41SF	"	|	|	NF2	1
23	Block Cement W/S	12SF	"	|	|	NF2	1
10	2X4 DF CT	1680SF	"	|	|	F	1
14	12X12 TAN/Gray marble FT/Mastic	300SF	Stair #4	G	(+0)	NF1	1
11/12	JC/DW	4000SF	"	|	|	F	1
01	TAN SAF	200SF	"	|	|	F	1
05	Mastic A/W CB	30SF	"	|	|	NF2	1
10	2X4 DF CT	500SF	"	|	|	F	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004
Site:
Building: NORRISTOWN PUBLIC LIBRARY
Floor: 1ST

Inspector: T Adams
Reviewed By:
Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
12	DW	1800 SF	MAIN PUBLIC AREA	Good	(H)	F	1
12	JC	1400 SF	1ST FLR	"	(H)	F	1
10	2X4 DOT/FIS	32,000	"	"	(H)	F	1
17	CARPET ADHESIVE	32000	"	"	(H)	NFZ	2
31	SPRAY ON FP 1ST FLR	45,000 SF	"	FAIR	A-G	F	1
32	INT GRAY PER WALL COATING	4100 SF	"	Good	A,B	NFZ	1
33	INT WHITE WIND CAULK	200 SF	"	"	A,B	NFZ	1
34	" BLACK " "	300 SF	"	"	A,B	NFZ	1
35	COVE MOLD ~~MASTIC~~ ADH TAN	800 SF	"	"	A,B	NFZ	2
11	JC	1700 SF	CIRCULATION/COMP	Good	(L)	F	1
12	DW	1700 SF	AREA	"	(L)	F	1
10	2X4 CT FIS/DOT	800 SF		"	(L)	F	1
31	SPRAY ON FP 1ST FLR	1200 SF		FAIR	(L)	F	1
32	INT GRAY WALL COATING	400 SF		Good	(L)	NFZ	1
33	" WHITE WIND CAULK	20 SF		"	(L)	NFZ	1
34	" BLK " "	20 SF		"	(L)	NFZ	1
35	COVE MOLD ADH	30 SF		"	(L)	NFZ	2
17	CARPET MASTIC	800 SF		"	(L)	NFZ	2

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP24004

Site:

Building: Norristown Public Library

Floor: 1

Inspector: RG

Reviewed By: T. Adams

Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
11/12	~~3~~/Drywall	800SF	ELEVATOR RM/PUMP ROOM	G	(H)	F	1
~~053~~	~~Off White~~ SAF	1200SF	" "	G	(H)	F	1
18	Leveled A/W Ceramic floor	350SF	Mens / Womens Bath	G	(H)	F	1
19	Wall Adhesive A/W Ceramic wall	1400SF	" "			NF2	1
11/12	JC / Drywall	1400SF	" "			F	1
20	2x4 Smooth DOT CT	350SF	" "			F	1
~~053~~	~~Off White~~ SAF	2060SF	" "			F	1
11/12	JC / Drywall	2500SF	Lobby 106	G	(H)	F	1
~~31~~	~~SAF~~	~~7600SF~~	" "			F	1
31	SAF	4000SF	" "			F	1
36	12x12 Tan FLR FT/M	50SF	ELEVATOR (Lobby/Main Library)	G	(H)	NF1	1
11/12	JC / Drywall	3,500SF	Community Room	G	(H)	F	1
17	Carpet Adhesive	2000SF	" "			NF1	1
31	SAF	4000SF	" "			F	1
24	Pink Sink Undercoating	1 sink	Kitchen " " (~~Kitchen~~)			F	1
10	2X4 DF CT	2000SF	" "			F	1
35 ~~05~~	MEDIC A/W CB (H1035)	600SF	" "			NF2	1
14	12X12 Tan & Gray Marble FT/M	~~7300SF~~ 2400SF	" "			NF1	1
32	Int Gray Coating on Perim walls	760SF	" "			NF2	1
34	Int window Caulk window ledge Black	25 SF	" "			NF2	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP240084

Site:

Building: Norristown Library

Floor: 1

Inspector: R. Egner

Reviewed By: T. Adams

Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
37	2x2 CT	76 SF	Lobby 106	G	AB	F	1
~~05~~ 38	Brick Floor - Expansion Caulk	150 LF	"	G	AB	NF	1
05	Mastic RW CB	80 SF	"	G	(A)	NF2	1
39	Capstone Metal Cap Caulk		Exterior Roof Lower Roof	G	AB	NF	1
40	Brick Expansion Caulk		"	G	AB	NF2	1
41	Lower Roof Field	12,100 SF	"		PACM	NF1	1
42	Roof Flashing	1,000 LF	"		PACM	NF1	1
43	Tar Roof Pitch	100 SF	"		PACM	NF1	1
44	Pitch Pocket	1 SF	"		PACM	NF1	1
40	Brick Expansion Caulk		Lower Roof Rectangle	G	(B) PACM	NF1	1
39	Capstone Metal Cap Caulk		"		(B)	NF1	1
41	Lower Roof Field	8,100 SF	"		PACM	NF1	1
42	Roof flashing	700 SF	"		PACM	NF1	1
44	Roof field	20,000 SF	Upper Roof	G	PACM	NF	1
45	Terra cotta/Mortar		"		AB	F	1
42	Roof flashing	5000 SF	"		PACM	NF1	1
47	Pitch Pocket	50 SF	"		PACM	NF1	1
43	Tar Pitch Pocket	300 SF	"		PACM	NF1	1
40	Brick Expansion		"		(A)	NF1	1
39	Capstone Metal cap Caulk		"		(B)	NF1	1

Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

SUSPECT MATERIAL LIST

Pennoni

Project Number: GRMNP 24004

Site:

Building: Norristown Public Library

Floor: Exterior

Inspector: R Eyrich

Reviewed By: T Adams

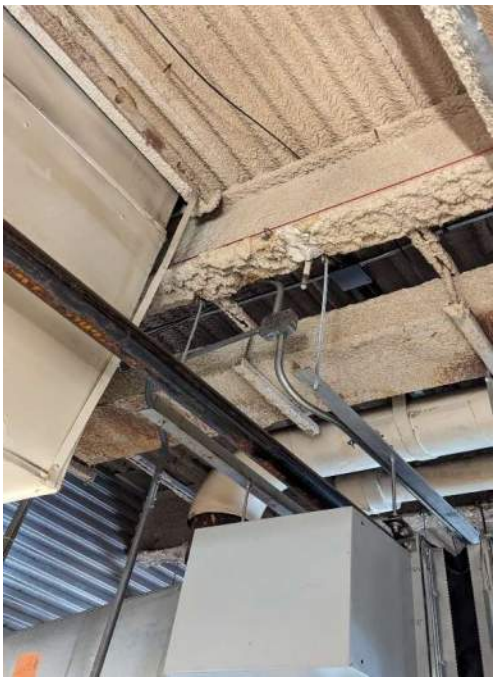
Date: 6/5/24

HID	Description	Quantity	Location	Condition	Sample Number	Category	Layer
46	Concrete Wall Caulk - Exterior		Exterior of Bldg	G	AB	NF2	1
38	Brick Expansion Caulk		"	G	AC	NF2	1
47	Exterior Brick & Mortar		"	G	AB	F	1
30	Ceiling Plaster	200SF	Exterior. Receiving Dock	G	AD	F	1
46	Give Dots	300SF	Sprinkler Room	G	AB	NF2	1
49	Expansion Caulk AW Plaster	800SF	Exterior	G	AB	NF2	1
30	Ceiling Plaster Hard #130	130SF	Lower Lobby	G	AD	F	1
38	Brick Expansion Floor Caulk	50SF	"	G	AE	NF1	1
11/12	TC / Drywall	200SF	Sprinkler Room	G	AF	F	1
30	Ceiling Plaster		Exterior Over Irving Plumbing	G	EXT F.G	F	1

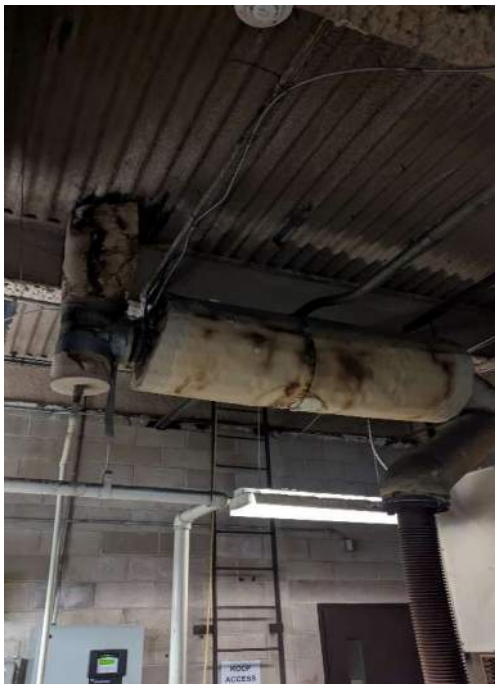
Category: F- Friable NF 1- Flooring, Roofing & Gaskets NF 2- All other Non-Friable
Condition: Good (G), Damaged (D), Significantly Damaged (SD)

APPENDIX C

Site Photographs



Photograph 1: HID 01. Tan Spray-Applied Fireproofing (NAD)



Photograph 2: HID 02. Generator Thermal Insulation (NAD)



Photograph 3: HID 02. Generator Thermal Insulation (NAD) Debris on Floor



Photograph 4: HID 03. Expansion Caulk (NAD)

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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 5: HID 04. Endcap Mastic (NAD)



Photograph 6: HID 05. Dark Brown Covebase Mastic (NAD)



Photograph 7: HID 06. Air Handler Caulk (ACM)



Photograph 8: HID 07. Duct Seam Caulk (ACM)

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Photograph 9: HID 09. Brick (NAD) and Mortar (NAD)



Photograph 10: HID 10. 2'x4' Dot Fissure Ceiling Tile (NAD)



Photograph 11: HID 11. Joint Compound (NAD) and HID 12. Drywall (NAD)



Photograph 12: HID 14. 12"x12" Tan and Gray Marble Floor Tile (ACM) and Mastic (ACM)

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Photograph 13: HID 21. Interior Window Caulk (NAD)



Photograph 14: HID 23. Black Cement Window Sill (ACM)



Photograph 15: HID 23. Black Cement Window Sill (ACM)



Photograph 16: HID 14. 12”x12” Tan and Gray Marble Floor Tile (ACM) and Mastic (ACM),
Pictured in 2nd Floor, Closed Stack Room

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Photograph 17: HID 24. 12”x12” Tan Floor Tile (NAD) and Mastic (NAD); HID 25. 12”x12” Maroon Floor Tile (NAD) and Mastic (NAD); and HID 27. 12”x12” Blue Floor Tile (NAD) and Mastic (NAD)



Photograph 18: HID 26. Gray Floor Leveler (NAD)



Photograph 19: HID 29. Pink Sink Undercoating (ACM)



Photograph 20: HID 31. Spray Applied Fireproofing (NAD), 1st Floor

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Photograph 21: HID 32. Interior Gray Coating (NAD) on Perimeter Walls



Photograph 22: HID 33. Interior Window Caulk White (NAD)



Photograph 23: HID 34. Interior Window/Ledge Black Caulk (NAD)



Photograph 24: HID 35. Covebase Mastic (NAD)

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Job No. GRMNP24004	Date Taken: JUNE 3 - 5, 2024	SITE PHOTOGRAPHS



Photograph 25: HID 36. 12”x12” Brown with Tan Flake Floor Tile (NAD) and Mastic (ACM)



Photograph 26: HID 37. 2’x2’ Ceiling Tile (NAD)



Photograph 27: HID 38. Brick Floor Expansion Caulk (NAD)



Photograph 28: HID 39. Capstone Metal Cap Caulk (NAD)

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Photograph 29: HID 40. Exterior Brick Expansion Caulk (NAD)



Photograph 30: HID 46. Exterior Concrete Wall Expansion Caulk (ACM)



Photograph 31: HID 47. Exterior Brick (NAD) and Mortar (NAD)

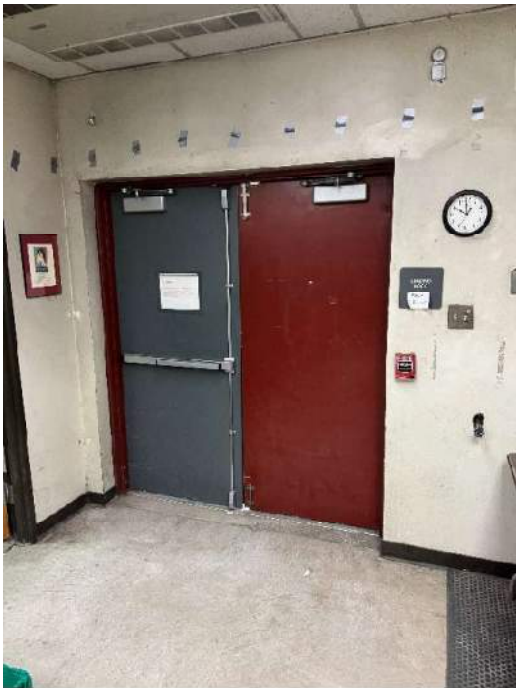


Photograph 32: HID 01. Tan Spray-Applied Fireproofing (NAD) View above drop ceiling.

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Photograph 33: HID 08. Off-White Spray-Applied Fireproofing (NAD) View above drop ceiling.



Photograph 34: HID 13. Fire Doors (Not Suspect)



Photograph 35: HID 49. Exterior Plaster Ceiling Expansion Caulk (NAD)



Photograph 36: HID 14. 12”x12” Tan and Gray Marble Floor Tile (ACM) and Mastic (ACM); HID 15. 12”x12” White and Gray Marble Floor Tile (NAD) and Mastic (ACM); HID 16. 12”x12” Gray and Brown Marble Floor Tile (NAD) and Mastic (ACM)

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Photograph 37: HID 17. Carpet Glue (NAD)



Photograph 38: HID 18. Ceramic Floor Wetbed (NAD); HID 19. Ceramic Wall Adhesive (NAD); and HID 20. 2'x4' Smooth Dot Ceiling Tile (NAD)

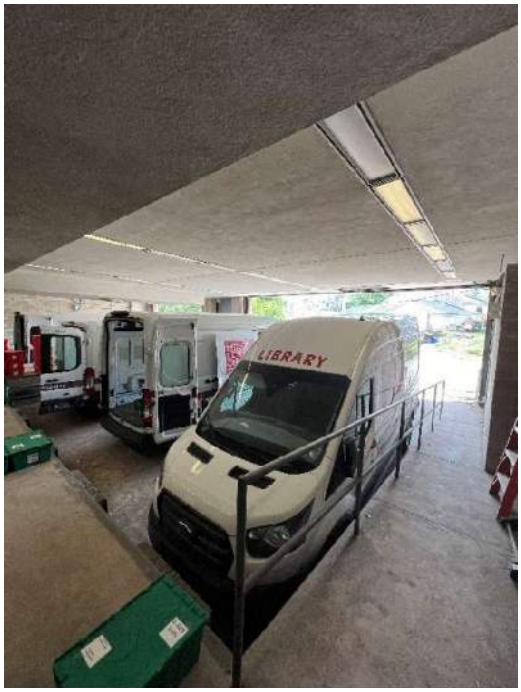


Photograph 39: HID 22. Wall Board Adhesive (NAD)



Photograph 40: HID 28. Mirror Adhesive (Not Present)

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Photograph 41: HID 30. Ceiling Plaster (NAD), In Garage



Photograph 42: HID 48. Glue Dots (NAD) associated with Fiberglass Panels

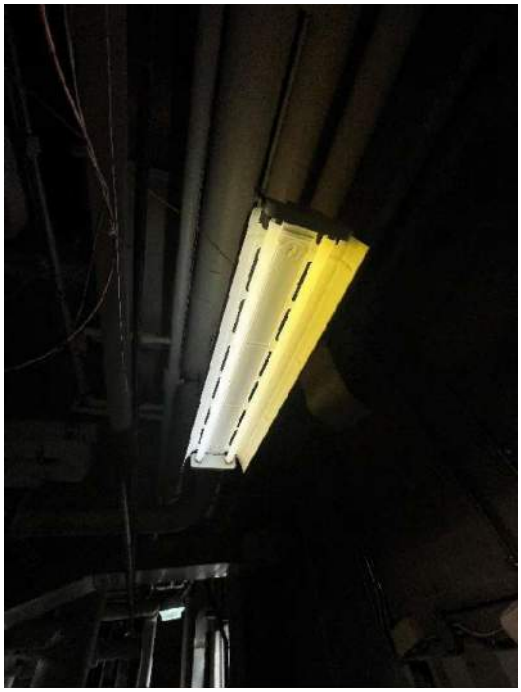


Photograph 43: HID 44. Roof Pitch Pocket (NAD)



Photograph 44: HID 43. Roof Seam Tar (ACM –Silver Layer)

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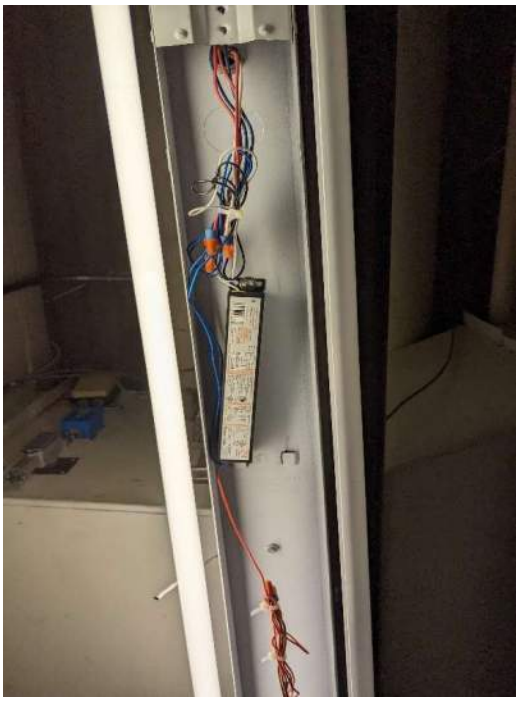
Photograph 45: 4-Foot PCB Ballast



Photograph 46: PCB-Ballast



Photograph 47: Non-PCB Ballast



Photograph 48: Non-PCB Ballast

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Photograph 49: Natural Gas Generator



Photograph 50: Mercury Light Fixture

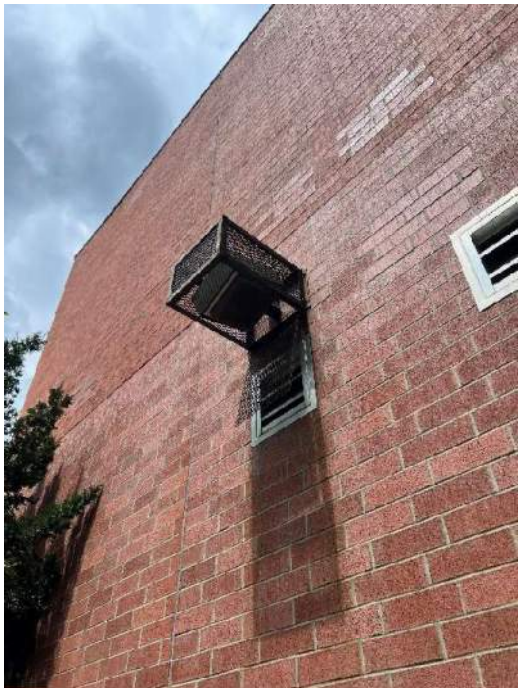


Photograph 51: Smoke Detector



Photograph 52: Mercury Light Fixture

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Photograph 53: Exterior Mercury Light Fixture



Photograph 54. Exterior Mercury Light Fixture



Photograph 55: Dry Transformer – 2nd Floor, Elevator Room



Photograph 56 Elevator Gear System on 2nd Floor

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Photograph 57: Dry Transformer



Photograph 58: Batteries



Photograph 59: Batteries



Photograph 60: Miscellaneous Chemicals

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Photograph 61: Miscellaneous Chemicals



Photograph 62: Miscellaneous Chemicals



Photograph 63: Refrigerant Canisters



Photograph 64: Exhaust Fan Unit

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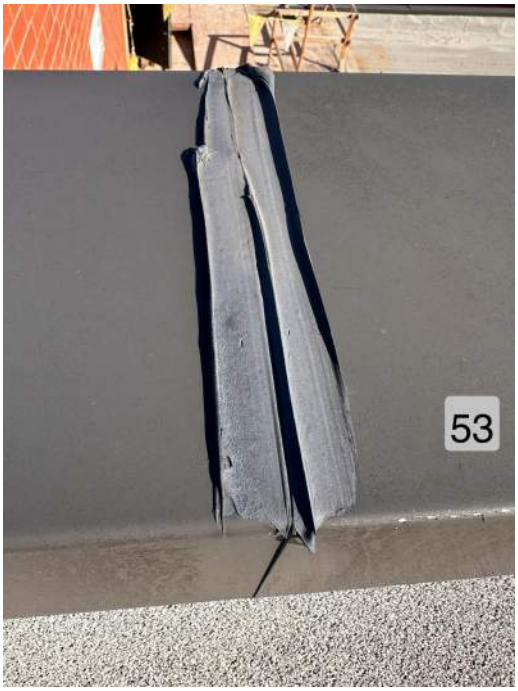


Photograph 65: Non-suspect asbestos-containing material



Photograph 66: HID 43 – Roof Seam Tar

(ACM – Silver Layer)



Photograph 67: HID 53 – Flashing Caulk

(NAD)



Photograph 68: HID 54 – Penetration Tar

(NAD)



Photograph 69: HID 55 – White Penetration Caulk (NAD)

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Photograph 70: HID 56 – Penetration Filler Caulk (NAD)



Photograph 71: HID 57 – Grey Penetration Caulk (NAD)



Photograph 72: Upper Roof Overview

APPENDIX D

Asbestos Laboratory Analytical Certificates

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411091
Customer ID:	PENN50
Customer PO:	
Project ID:	

Attention:	Rick Egner	**Phone:**	(856) 547-0505
	Pennoni Associates, Inc.	**Fax:**	(856) 547-1039
	515 Grove Street	**Received Date:**	06/03/2024 6:00 PM
	Haddon Heights, NJ 08035	**Analysis Date:**	06/04/2024
		Collected Date:	06/03/2024
Project:	GRMNP24004 / Norristown Public Library		

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
01A *042411091-0001*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 10% Glass	10% Vermiculite 55% Non-fibrous (Other)	None Detected
01B *042411091-0002*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	30% Cellulose 10% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
01C *042411091-0003*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 10% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
01D *042411091-0004*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
01E *042411091-0005*	Throughout Bldg - Tan Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 15% Glass	10% Vermiculite 55% Non-fibrous (Other)	None Detected
01F *042411091-0006*	Throughout Bldg - Tan Spray-on Fireproofing	Brown Fibrous Homogeneous	20% Cellulose 5% Glass	10% Vermiculite 65% Non-fibrous (Other)	None Detected
01G *042411091-0007*	Throughout Bldg - Tan Spray-on Fireproofing	Brown Fibrous Homogeneous	20% Cellulose 5% Glass	10% Vermiculite 65% Non-fibrous (Other)	None Detected
02A *042411091-0008*	Mech Room 224 - Generator Thermal Insulation	Gray Fibrous Homogeneous	10% Cellulose 35% Min. Wool	55% Non-fibrous (Other)	None Detected
02B *042411091-0009*	Mech Room 224 - Generator Thermal Insulation	Gray Fibrous Homogeneous	5% Cellulose 30% Min. Wool	65% Non-fibrous (Other)	None Detected
02C *042411091-0010*	Mech Room 224 - Generator Thermal Insulation	Brown/Gray Fibrous Homogeneous	5% Cellulose 2% Glass	93% Non-fibrous (Other)	None Detected
03A *042411091-0011*	Mech Room 224/222 - Expansion Caulk (Door/Wall)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
03B *042411091-0012*	Mech Room 224/222 - Expansion Caulk (Door/Wall)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
04A *042411091-0013*	Mech Room 224/222 - End Cap Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
04B *042411091-0014*	Mech Room 224/222 - End Cap Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
05A *042411091-0015*	Throughout 2nd Floor - Mastic a/w Cove Base	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
05B *042411091-0016*	Throughout 2nd Floor - Mastic a/w Cove Base	Brown Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected

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http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 042411091
Customer ID: PENN50
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
06A *042411091-0017*	Mech Room 222 - Air Handler Caulk	White Non-Fibrous Homogeneous		95% Non-fibrous (Other)	**5% Chrysotile**
06B *042411091-0018*	Mech Room 222 - Air Handler Caulk				**Positive Stop (Not Analyzed)**
07A *042411091-0019*	Mech Room 222 - Duct Seam Caulk	White/Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	**3% Chrysotile**
07B *042411091-0020*	Mech Room 222 - Duct Seam Caulk				**Positive Stop (Not Analyzed)**
08A *042411091-0021*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	5% Vermiculite 55% Non-fibrous (Other)	None Detected
08B *042411091-0022*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 10% Glass	5% Vermiculite 65% Non-fibrous (Other)	None Detected
08C *042411091-0023*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
08D *042411091-0024*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	20% Cellulose 10% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
08E *042411091-0025*	Off-white Spray-on Fireproofing	Tan Fibrous Homogeneous	25% Cellulose 15% Glass	10% Vermiculite 50% Non-fibrous (Other)	None Detected
08F *042411091-0026*	Off-white Spray-on Fireproofing	Brown Fibrous Homogeneous	25% Cellulose 5% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
08G *042411091-0027*	Off-white Spray-on Fireproofing	Brown Fibrous Homogeneous	25% Cellulose 5% Glass	10% Vermiculite 60% Non-fibrous (Other)	None Detected
09A *042411091-0028*	2nd Floor Hallway 229 - Brick	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09MA *042411091-0029*	2nd Floor Hallway 229 - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09B *042411091-0030*	2nd Floor Hallway 229 - Brick	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09MB *042411091-0031*	2nd Floor Hallway 229 - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10A *042411091-0032*	2nd Floor T/O Bldg - 2x4 Dot Fissure Ceiling Tile	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
10B *042411091-0033*	2nd Floor T/O Bldg - 2x4 Dot Fissure Ceiling Tile	Gray Fibrous Homogeneous	65% Cellulose 20% Min. Wool	15% Non-fibrous (Other)	None Detected
11A *042411091-0034*	Throughout Bldg - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11B *042411091-0035*	Throughout Bldg - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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EMSL Order: 042411091
Customer ID: PENN50
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
12A *042411091-0036*	Throughout Bldg - Drywall	Brown/White Fibrous Homogeneous	15% Cellulose 5% Glass	80% Non-fibrous (Other)	None Detected
12B *042411091-0037*	Throughout Bldg - Drywall	Brown/Gray Fibrous Homogeneous	15% Cellulose 2% Glass	83% Non-fibrous (Other)	None Detected
14A *042411091-0038*	2nd Floor Hallway 227 - 12x12 Tan and Grey FT	Gray/Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	**5% Chrysotile**
14MA *042411091-0039*	2nd Floor Hallway 227 - Mastic	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	**5% Chrysotile**
14B *042411091-0040*	2nd Floor Hallway 221 - 12x12 Tan and Grey FT				**Positive Stop (Not Analyzed)**
14MB *042411091-0041*	2nd Floor Hallway 221 - Mastic				**Positive Stop (Not Analyzed)**
15A *042411091-0042*	2nd Floor Storage Rm 225 - 12x12 White Grey FT	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15MA *042411091-0043*	2nd Floor Storage Rm 225 - Mastic	Black Non-Fibrous Homogeneous		94% Non-fibrous (Other)	**6% Chrysotile**
15B *042411091-0044*	2nd Floor Storage Rm 225 - 12x12 White Grey FT	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15MB *042411091-0045*	2nd Floor Storage Rm 225 - Mastic				**Positive Stop (Not Analyzed)**
17A *042411091-0046*	Hallway 221 - Carpet Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17B *042411091-0047*	Hallway 221 - Carpet Adhesive	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18A *042411091-0048*	Mens 219 / Womens 220 - Wetbed a/w Ceramic Floor	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18B *042411091-0049*	Mens 219 / Womens 220 - Wetbed a/w Ceramic Floor	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19A *042411091-0050*	Mens 219 / Womens 220 - Wall Adhesive a/w Ceramic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19B *042411091-0051*	Mens 219 / Womens 220 - Wall Adhesive a/w Ceramic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
20A *042411091-0052*	Mens 219 / Womens 220 - 2x4 Smooth Dot Ceiling Tile	Gray/White Fibrous Homogeneous	60% Min. Wool	40% Non-fibrous (Other)	None Detected
20B *042411091-0053*	Mens 219 / Womens 220 - 2x4 Smooth Dot Ceiling Tile	Gray/White Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected

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EMSL Order:	042411091
Customer ID:	PENN50
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Project ID:	

Analyst(s)

Amy Schulze (30)
Brett Polumbo (18)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 “Interim Method”) but augmented with procedures outlined in the 1993 (”final”) version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

Initial report from: 06/04/2024 10:41:33

OrderID: 042411091

Pennoni

01A-01G and 02C per email w/ Rick 042411091

-NS 6-3-14 Laboratory: Envi PAGE 1 of

Send invoice to *(circle one)*: Haddon Heights *(PENN50)* Philadelphia *(PENN54)* Newark/New York *(PNNJ42)* Other:

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

Project #: GRMNP24604 Collected by: Rick Egner Date: 6/3/14

Site: Norristown Public Library Transported by: Rick Egner Date: 6/3/14

Section: Received by: [illegible] Date: 6/3/14 1530

Floor: Analyzed by: Date:

Analysis Turnaround Time

1 Day [X] 2 Day [ ] 3 Day [ ] 5 Day [ ] 7 Day [ ]

Contact: Tom Adams / Rick Egner Cell: Email: tadams@pennoni.com / regner@pennoni.com

[X] PLM [X] 1ST POSITIVE STOP [ ] ANALYZE AS NYC/NYS SAMPLES

[ ] ANALYZE NOBs VIA PLM 1ST POSITIVE STOP, THEN ANALYZE 1ST SAMPLE OF EACH MATERIAL SET VIA TEM-NOB

[ ] ANALYZE PLM-NOB 1ST POSITIVE STOP, THEN TEM-NOB 1ST POSITIVE STOP

Sample ID #	Type of Material	Location 45
01A-G	TAN Spray on fireproofing	Throughout Bldg
02A, 02B	Generator Thermal Insulation	Mech Room 224
03A, 03B	Expansion Caulk (door well)	Mech Room 224/222
04A, 04B	End cap Mastic	Mech Room 224/222
05A, 05B	Mastic AIW Cove Base	Throughout 2nd floor
06A, 06B	Air handler Caulk	Mech Room 222
07A, 07B	Duct Seam Caulk	" "
08A/MA, 08B/MB	Brick & Mortar	2nd floor Hallway 229
10A, 10B	2X4 DST Fissure Ceiling Tile	2nd floor/T/O Bldg
11A, 11B	Joint Compound	Throughout Bldg
12A, 12B	Drywall	Throughout Bldg
14A, 14MA	12X12 TAN & Gray FT/mastic	HALLWAY 227 - 2nd floor
14B 14MB	" "	Hallway 227 2nd floor
15A, 15B 15MB	12X12 white Gray FT/mastic	Storage RM 225 - 2nd floor
17A, 17B	Carpet Adhesive	HALLWAY 221
18A, 18B	Wetbed AIW Ceramic floor	Mens 219 / Womens 220
19A, 19B	Wall Adhesive A/W Ceramic	" "
20A, 20B	2X4 Smooth DST Ceiling	Mens 219 / Womens 220

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53

→ Only analyze Adhesive [illegible] Ceramic for #19A, 19B

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042411269
Customer ID:	PENN50
Customer PO:	
Project ID:	

Attention:	Thomas Adams	**Phone:**	(856) 656-2912
	Pennoni Associates, Inc.	**Fax:**	(856) 547-1039
	515 Grove Street	**Received Date:**	06/05/2024 3:20 PM
	Haddon Heights, NJ 08035	**Analysis Date:**	06/06/2024
		Collected Date:	06/04/2024
Project:	GRMNP24004 / Norristown Library		

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
05-C *042411269-0001*	Employee Lounge 126 - Mastic Associated with Cove Base	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
08-H *042411269-0002*	Employee Lounge 126 - Off White SAF	White Fibrous Homogeneous	30% Cellulose 15% Glass	5% Vermiculite 50% Non-fibrous (Other)	None Detected
08-I *042411269-0003*	Employee Lounge 126 - Off White SAF	Brown Fibrous Homogeneous	25% Cellulose 10% Glass	6% Vermiculite 59% Non-fibrous (Other)	None Detected
11-C *042411269-0004*	Room 127 - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17-C *042411269-0005*	Employee Lounge 126 - Carpet Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21A *042411269-0006*	Children Stack Area - Interior Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21B *042411269-0007*	Children Stack Area - Interior Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
23-A *042411269-0008*	Children Stack Area - Black Cement Window Sink	Black Non-Fibrous Homogeneous		85% Non-fibrous (Other)	**15% Chrysotile**
23-B *042411269-0009*	Children Stack Area - Black Cement Window Sink				**Positive Stop (Not Analyzed)**
24A *042411269-0010*	Story Telling Area 202 - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24AM *042411269-0011*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24B *042411269-0012*	Story Telling Area 202 - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24BM *042411269-0013*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
25A *042411269-0014*	Story Telling Area 202 - 12x12 Maroon Floor Tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
25AM *042411269-0015*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
25B *042411269-0016*	Story Telling Area 202 - 12x12 Maroon Floor Tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/06/2024 22:57:43

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EMSL Order: 042411269
Customer ID: PENN50
Customer PO:
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
25BM *042411269-0017*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26A *042411269-0018*	Story Telling Area 202 - Grey Floor Leveler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
26B *042411269-0019*	Story Telling Area 202 - Grey Floor Leveler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27A *042411269-0020*	Story Telling Area 202 - 12x12 Blue Floor Tile	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27AM *042411269-0021*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27B *042411269-0022*	Story Telling Area 202 - 12x12 Blue Floor Tile	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
27BM *042411269-0023*	Story Telling Area 202 - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
29A *042411269-0024*	Employee Lounge 126 - Pink Sink Undercoating	Pink Non-Fibrous Homogeneous		97% Non-fibrous (Other)	**3% Chrysotile**
29B *042411269-0025*	Employee Lounge 126 - Pink Sink Undercoating				**Positive Stop (Not Analyzed)**
26C *042411269-0026*	Employee Lounge 126 - Grey Floor Leveler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30A-Plaster *042411269-0027*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30A-Skim Coat *042411269-0027A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30B-Plaster *042411269-0028*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30B-Skim Coat *042411269-0028A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30C-Plaster *042411269-0029*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30C-Skim Coat *042411269-0029A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30D-Plaster *042411269-0030*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30D-Skim Coat *042411269-0030A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30E-Plaster *042411269-0031*	Garage 117 - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/06/2024 22:57:43

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Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
30E-Skim Coat *042411269-0031A*	Garage 117 - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30F-Plaster *042411269-0032*	Exterior Overhang - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30F-Skim Coat *042411269-0032A*	Exterior Overhang - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30G-Plaster *042411269-0033*	Exterior Overhang - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30G-Skim Coat *042411269-0033A*	Exterior Overhang - Ceiling Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
31A *042411269-0034*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31B *042411269-0035*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31C *042411269-0036*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31D *042411269-0037*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	3% Vermiculite 27% Non-fibrous (Other)	None Detected
31E *042411269-0038*	1st Floor - Spray-on Fireproofing	White Fibrous Homogeneous	10% Cellulose 60% Glass	30% Non-fibrous (Other)	None Detected
31F *042411269-0039*	1st Floor - Spray-on Fireproofing	Brown Fibrous Homogeneous	20% Cellulose 5% Glass	5% Vermiculite 70% Non-fibrous (Other)	None Detected
31G *042411269-0040*	1st Floor - Spray-on Fireproofing	Brown Fibrous Homogeneous	25% Cellulose 10% Glass	7% Vermiculite 58% Non-fibrous (Other)	None Detected
32A *042411269-0041*	1st Floor - Interior Grey Perimeter Wall Coating	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32B *042411269-0042*	1st Floor - Interior Grey Perimeter Wall Coating	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
33A *042411269-0043*	1st Floor - Interior White Window Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
33B *042411269-0044*	1st Floor - Interior White Window Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
34A *042411269-0045*	1st Floor - Interior Black Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
34B *042411269-0046*	1st Floor - Interior Black Window Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
35A-Mastic *042411269-0047*	1st Floor - Tan Mastic Associated with Cove Base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
35B *042411269-0048*	1st Floor - Tan Mastic Associated with Cove Base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36A *042411269-0049*	Elevators - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36AM *042411269-0050*	Elevators - Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36AM-Mastic 2 *042411269-0050A* *Result includes a small amount of inseparable attached material*	Elevators - Mastic	Brown/Black Fibrous Heterogeneous	30% Cellulose	68% Non-fibrous (Other)	**2% Chrysotile**
36B *042411269-0051*	Elevators - 12x12 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36BM *042411269-0052* *Result includes a small amount of inseparable attached material*	Elevators - Mastic	Black/Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
37A *042411269-0053*	Lobby 106 -1st Floor - 2x2 Ceiling Tile	Gray Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
37B *042411269-0054*	Lobby 106 -1st Floor - 2x2 Ceiling Tile	Gray Fibrous Homogeneous	60% Cellulose 25% Min. Wool	15% Non-fibrous (Other)	None Detected
38A-Caulk *042411269-0055*	Lobby 106 Lower Level Lobby - Brick Floor Expansion Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
38A-Backing *042411269-0055A*	Lobby 106 Lower Level Lobby - Brick Floor Expansion Caulk	Black Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
38B *042411269-0056* *Result includes a small amount of inseparable attached material*	Lobby 106 Lower Level Lobby - Brick Floor Expansion Caulk	Tan/Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
39A *042411269-0057*	Roof - Capstone Mortar Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
39B *042411269-0058*	Roof - Capstone Mortar Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
40A *042411269-0059*	Exterior of Building - Exterior Brick Expansion Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
40B *042411269-0060*	Exterior of Building - Exterior Brick Expansion Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
45A-Teracotta *042411269-0061*	Exterior Roof - Teracotta	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
45A-Mortar *042411269-0061A*	Exterior Roof - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 06/06/2024 22:57:43

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Customer PO:	
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
45B-Teracotta *042411269-0062*	Exterior Roof - Teracotta	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
45B-Mortar *042411269-0062A*	Exterior Roof - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
46A *042411269-0063*	Exterior of Building - Concrete Wall Caulk	Gray/White Non-Fibrous Homogeneous		98% Non-fibrous (Other)	**2% Chrysotile**
46B *042411269-0064*	Exterior of Building - Concrete Wall Caulk				**Positive Stop (Not Analyzed)**
47A-Brick *042411269-0065*	Exterior of Building - Brick	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
47A-Mortar *042411269-0065A*	Exterior of Building - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
47B-Brick *042411269-0066*	Exterior of Building - Brick	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
47B-Mortar *042411269-0066A*	Exterior of Building - Mortar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
48A *042411269-0067*	Sprinkler Room - Glue Dot	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
48B *042411269-0068*	Sprinkler Room - Glue Dot	Tan Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
49A *042411269-0069*	Exterior of Building - Expansion Caulk Associated with Plaster Ceiling	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
49B *042411269-0070*	Exterior of Building - Expansion Caulk Associated with Plaster Ceiling	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16A *042411269-0071*	12x12 Grey/Brown Floor Tile	Brown/Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16AM *042411269-0072* *Result includes a small amount of inseparable attached material*	Mastic	Black/Yellow Non-Fibrous Heterogeneous		98% Non-fibrous (Other)	**2% Chrysotile**
16B *042411269-0073*	12x12 Grey/Brown Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16BM *042411269-0074*	Mastic				**Positive Stop (Not Analyzed)**

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Analyst(s)

Brett Polumbo (32)
Selbbep Salgado (51)



Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

Initial report from: 06/06/2024 22:57:43

OrderID: 042411269

Pennoni 042411269

Laboratory: EMSL

Send invoice to *(circle one)*: Haddon Heights *(PENN50)* Philadelphia *(PENN54)* Newark/New York *(PNNJ42)* Other: _____

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

Project #: GRMNP24004 Collected by: RICK EGNER Date: 6/4/24

Site: NORRISTOWN LIBRARY Transported by: [signature] Date: 6/5/24

Section: _____ Received by: [signature] LI Date: 6/5/24 3:29p

Floor: _____ Analyzed by: _____ Date: _____

Analysis Turnaround Time

1 Day ☒ 2 Day ☐ 3 Day ☐ 5 Day ☐ 7 Day ☐

Contact: TOM ADAMS Cell: _____ Email: TAdams@Pennoni.com
RGEgner@Pennoni.com

☒ PLM ☒ 1ST POSITIVE STOP ☐ ANALYZE AS NYC/NYS SAMPLES

☐ ANALYZE NOBs VIA PLM 1ST POSITIVE STOP, THEN ANALYZE 1ST SAMPLE OF EACH MATERIAL SET VIA TEM-NOB

☐ ANALYZE PLM-NOB 1ST POSITIVE STOP, THEN TEM-NOB 1ST POSITIVE STOP

Sample ID #	Type of Material	Location
05-C	MASTIC A/W COVE BASE	EMPLOYEE LOUNGE 126
08-H	OFF-WHITE SAF	"
08-I	"	"
11-C	JOINT COMPOUND	RM 127
17-C	CARPET ADHESIVE	EMPLOYEE LOUNGE 126
21-A	INTERIOR WINDOW CAULK	CHILDREN STACK AREA
21-B	"	"
23-A	BLACK CEMENT WINDOW SILL	"
23-B	"	"
* 24-A,MA	12x12 TAN FLOOR TILE & MASTIC	STORY TELLING AREA 202
* 24-B,MB	"	"
* 25-A,MA	12x12 MAROON FLOOR TILE & MASTIC	"
* 25-B,MB	"	"
26-A	GRAY FLOOR LEVELER	"
26-B	"	"
27-A,MA	12"x12" BLUE FLOOR TILE & MASTIC	"
27-B,MB	"	"
29-A	PINK SINK UNDERCOATING	EMPLOYEE LOUNGE 126
29-B	"	"
26-C	GRAY FLOOR LEVELER	"
30-A,B,C,D,E	CEILING PLASTER	GARAGE 117

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* MASTIC IS PRIMARILY ON SAMPLES 26-A, 26-B

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ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

Project #: GRMNB24004 Collected by: Rick Egner Date: 6/5/24
Site: Norristown Public Library Transported by: Rick E Date: 6/5/24
Section: _____ Received by: [signature] WI Date: 6/5/24 3:20pm
Floor: _____ Analyzed by: _____ Date: _____

Analysis Turnaround Time

1 Day [X] 2 Day [ ] 3 Day [ ] 5 Day [ ] 7 Day [ ]

Contact: Tom Adams / Rick Egner Cell: _____ Email: tadams@pennoni.com / regner@pennoni.com

[X] PLM [X] 1ST POSITIVE STOP [ ] ANALYZE AS NYC/NYS SAMPLES

[ ] ANALYZE NOBs VIA PLM 1ST POSITIVE STOP, THEN ANALYZE 1ST SAMPLE OF EACH MATERIAL SET VIA TEM-NOB

[ ] ANALYZE PLM-NOB 1ST POSITIVE STOP, THEN TEM-NOB 1ST POSITIVE STOP

Sample ID #	Type of Material	Location
30F, 30G	Ceiling Plaster	Exterior overhang
31A-G	Spray on Fireproofing	1st floor
32A, 32B	Interior Gray Perimeter Wall Caulking	1st floor
33A, 33B	Interior White Window Caulk	1st floor
34A, 34B	Interior Black Window Caulk	1st floor
35A, 35B	TAN Mastic N/W Coveboss	1st floor
36A, 36MA, 36B, 36MB	12x12 Tan Sp Flake Floor Tile Mastic	Elevators
37A, 37B	2x2 Ceiling Tile	Lobby 106 - 1st floor
38A, 38B	Brick floor Expansion Caulk	Lobby 106 / Lower Level Lobby
39A, 39B	Capstone Mortar Cap Caulk	Roof
40A, 40B	Exterior Brick Wall Expansion Caulk	Exterior of Bldg
45A, 45B	Term Cotta & mortar	Exterior Roof
46A, 46B	Concrete wall Caulk	Exterior of Bldg
47A, 47B	Brick & Mortar (Exterior)	Exterior of Bldg
48A, 48B	Glue dots	Sprinkler Room
49A, 49B	Expansion Caulk B/W Plaster Ceiling	Exterior of Bldg
16A, 16MA	See email	
16B, 16MB	6/5/24	

2024 JUN -5 P 3:19
CINNAMINSON, N.J.
EMSL
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HID 45A, B
Do not analyze

EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 042520431
Customer ID: PENN50
Customer PO:
Project ID:

Attention: Jeremy Humble
Pennoni Associates, Inc.
515 Grove Street
Haddon Heights, NJ 08035

Phone: (609) 970-6113
Fax: (856) 547-1039
Received Date: 10/10/2025 3:15 PM
Analysis Date: 10/11/2025 - 10/13/2025
Collected Date: 10/10/2025

Project: GRMNP24004 / Norristown Library / Roof

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
041A-Shingle *042520431-0001*	Upper Roof - Roof Field	White/Black Fibrous Homogeneous	30% Synthetic 18% Glass	52% Non-fibrous (Other)	None Detected
041A-Tar Felt *042520431-0001A*	Upper Roof - Roof Field	Gray/Black Fibrous Homogeneous	35% Glass	65% Non-fibrous (Other)	None Detected
041A-Insulation *042520431-0001B*	Upper Roof - Roof Field	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
041A-Insulation 2 *042520431-0001C*	Upper Roof - Roof Field	Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
041A-Insulation 3 *042520431-0001D*	Upper Roof - Roof Field	Gray/Tan Fibrous Homogeneous		10% Vermiculite 90% Non-fibrous (Other)	None Detected
041B-Shinge *042520431-0002*	South Lower Roof - Roof Field	White/Black Fibrous Homogeneous	25% Synthetic	75% Non-fibrous (Other)	None Detected
041B-Tar Felt *042520431-0002A*	South Lower Roof - Roof Field	Black Fibrous Homogeneous	35% Glass	65% Non-fibrous (Other)	None Detected
041B-Insulation *042520431-0002B*	South Lower Roof - Roof Field	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
041B-Insulation 2 *042520431-0002C*	South Lower Roof - Roof Field	Brown Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
041B-Insulation 3 *042520431-0002D*	South Lower Roof - Roof Field	Gray/Tan Non-Fibrous Homogeneous		10% Vermiculite 90% Non-fibrous (Other)	None Detected
043A-Tar *042520431-0003*	Upper Roof - Roof Seam Tar	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
043A-Silver Paint *042520431-0003A*	Upper Roof - Roof Silver Paint	Silver Fibrous Homogeneous	5% Fibrous (Other)	92% Non-fibrous (Other)	**3% Chrysotile**
043A-Tar Felt *042520431-0003B*	Upper Roof - Roof Tar Felt	Black Fibrous Homogeneous	20% Synthetic 15% Glass	65% Non-fibrous (Other)	None Detected
043B-Tar *042520431-0004*	South Lower Roof - Roof Seam Tar	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
043B-Silver Paint *042520431-0004A*	South Lower Roof - Roof Tar Felt				**Positive Stop (Not Analyzed)**
043B-Shingle *042520431-0004B*	South Lower Roof - Roof Shingle	Brown/White/Black Fibrous Homogeneous	10% Synthetic	90% Non-fibrous (Other)	None Detected

Initial report from: 10/13/2025 11:29:28

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042520431
Customer ID:	PENN50
Customer PO:	
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
042A *042520431-0005*	Upper Roof - Roof Flashing Tar	Black Fibrous Heterogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
042B *042520431-0006*	South Lower Roof - Roof Flashing Tar	Black Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	None Detected
053A *042520431-0007*	Upper Roof - Flashing Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
053B *042520431-0008*	South Lower Roof - Flashing Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
054A *042520431-0009*	Upper Roof - Penetration Tar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
Sample is caulk *Result includes a small amount of inseparable attached material*					
054B *042520431-0010*	Upper Roof - Penetration Tar	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
055A *042520431-0011*	Upper Roof - White Penetration Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
055B *042520431-0012*	Upper Roof - White Penetration Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
056A *042520431-0013*	Upper Roof - Penetration Filler Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
056B *042520431-0014*	Upper Roof - Penetration Filler Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
057A-Caulk *042520431-0015*	Upper Roof - Grey Penetration Caulk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
057A-Silver Paint *042520431-0015A*	Upper Roof - Silver Paint	Silver Fibrous Homogeneous	5% Fibrous (Other)	93% Non-fibrous (Other)	**2% Chrysotile**
Result includes a small amount of inseparable attached material					
057B-Caulk *042520431-0016*	Upper Roof - Grey Penetration Caulk	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
057B-Silver Paint *042520431-0016A*	Upper Roof - Silver Paint				**Positive Stop (Not Analyzed)**
044A *042520431-0017*	Upper Roof - Pitch Pocket	Gray/Black Fibrous Heterogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected
Result includes a small amount of inseparable attached material					
044B *042520431-0018*	South Lower Roof - Pitch Pocket	Brown/Black Fibrous Homogeneous	35% Cellulose	65% Non-fibrous (Other)	None Detected

Initial report from: 10/13/2025 11:29:28

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order:	042520431
Customer ID:	PENN50
Customer PO:	
Project ID:	

Analyst(s)

Jannat Fareen (16)
Nicholas Wood (14)

Samantha Sweeney, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 “Interim Method”) but augmented with procedures outlined in the 1993 (”final”) version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, PA ID# 68-00367, LA #04127

Initial report from: 10/13/2025 11:29:28

OrderID: 042520431

042520431

Pennoni

Laboratory: EMSL Cinnaminson PAGE 1 of 1

Send invoice to *(circle one)*: (Haddon Heights *(PENN50)*) Philadelphia *(PENN54)* Newark/New York *(PNNJ42)* Other: _____

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

Project #:	GRMNP24004	Collected by:	J. Hawk	Date:	10/10/25
Site:	Norristown Library	Transported by:	J. Hawk	Date:	10/10/25
Section:	-	Received by:	Darrell T. WI	Date:	10/10/25 3:15 pm
Floor:	Roof	Analyzed by:		Date:	

Analysis Turnaround Time

1 Day ☑ 2 Day ☐ 3 Day ☐ 5 Day ☐ 7 Day ☐

Contact: J. Humble / J. Hawk Cell: (609)970-6113 / (856)466-1451 Email: jhumble@pennoni.com / jhawk@pennoni.com

☑ PLM ☑ 1ST POSITIVE STOP ☐ ANALYZE AS NYC/NYS SAMPLES

☐ ANALYZE NOBs VIA PLM 1ST POSITIVE STOP, THEN ANALYZE 1ST SAMPLE OF EACH MATERIAL SET VIA TEM-NOB ☐ ANALYZE PLM-NOB 1ST POSITIVE STOP, THEN TEM-NOB 1ST POSITIVE STOP

Sample ID #	Type of Material	Location
[redacted]041A	Roof Field	Upper Roof
[redacted]041B	" "	South Lower Roof
[redacted]043A	Roof Seam Tar	Upper Roof
[redacted]043B	" " "	South Lower Roof
[redacted]042A	Roof Flashing Tar	Upper Roof
[redacted]042B	" " "	South Lower Roof
[redacted]053A	Flashing Caulk	Upper Roof
[redacted]053B	" "	South Lower Roof
[redacted]054A	Penetration Tar	Upper Roof
[redacted]054B	" "	" "
[redacted]055A	White Penetration Caulk	" "
[redacted]055B	" " "	" "
[redacted]056A	Penetration Filler Caulk	" "
[redacted]056B	" " "	" "
[redacted]057A	Grey Penetration Caulk	" "
[redacted]057B	" " "	" "
[redacted]044A	Pitch Pocket	Upper Roof
[redacted]044B	" "	South Lower

RECEIVED EMSL CINNAMINSON, N.J. 2025 OCT 10 P 3:14

Z:\ADMIN\0311 HH Industrial Hygiene\FORMS and CHECKLISTS\Asbestos Bulk Sample Chain of Custody.xlsx_New York

18 DT

APPENDIX E

XRF Performance Characteristic Sheet

Performance Characteristic Sheet

EFFECTIVE DATE: February 1, 2022

MANUFACTURER AND MODEL:

Make: ***SciAps***
Models: ***Model X-550***
X-Ray Source: ***Rhodium (Rh) or Gold (Au) Anode***

FIELD OPERATION GUIDANCE

ACTION LEVEL SETTING IN THE INSTRUMENT: 1.0 mg/cm^2

NOTE: This PCS is not applicable at other Action Level settings; the Action Level setting of the instrument must be 1.0 mg/cm^2 to use this PCS.

OPERATING PARAMETERS:

Timed mode: fixed 10-second reading.

Quick mode: variable-time reading (approximately 2-6 seconds).

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive) on NIST SRM 2579 (1.02 mg/cm^2)/NIST SRM 2573, or equivalent

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

Rh Anode (Timed or Quick) READING DESCRIPTION	**SUBSTRATE**	**THRESHOLD (mg/cm^2)**
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	0.5 0.5 0.5 0.5 0.5 0.5
Au Anode (Timed or Quick) READING DESCRIPTION	**SUBSTRATE**	**INCONCLUSIVE RANGE (mg/cm^2)**
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	(0.4-0.6) (0.4-0.6) (0.4-0.6) (0.4-0.6) (0.4-0.6) (0.4-0.6)

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, 2012 Edition ("HUD Guidelines"). Performance parameters shown on this sheet are calculated using test results on building components in the HUD archive. Testing was conducted on 146 test samples in February 2022, with two separate instruments of each Anode type, operated in both Timed and Quick modes.

OPERATING PARAMETERS

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

XRF CALIBRATION CHECK:

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film; for NIST SRM 2579a, use film 2573 (1.04 mg/cm^2).

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing.

Conduct XRF re-testing at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below. Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. In single-family and multi-family housing, a result is defined as a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and the retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF readings.

Compute the average of all ten re-test XRF readings.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this

procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

The reading time in Archive tests was 10 seconds in Timed mode and from 2-6 seconds in Quick mode, for both the Rh Anode and Au Anode.

CLASSIFICATION OF RESULTS:

XRF results for the Rh Anode in Timed or Quick mode are classified as **positive** if they are **greater than or equal** to 0.5 mg/cm^2 and ***negative*** if they are ***less than*** 0.5 mg/cm^2.

XRF results for the Au Anode in Timed or Quick mode are classified as **positive** if they are **greater than or equal** to 0.6 mg/cm^2, ***negative*** if they are ***less than or equal*** to 0.4 mg/cm^2 and ***inconclusive*** if they are ***greater*** than 0.4 mg/cm^2 **AND** ***less than*** 0.6 mg/cm^2.

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) provides an explanation of the statistical methodology used to develop Performance Characteristic Sheets at the Federal standard (Action Level) of 1.0 mg/cm^2 and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. The report may be downloaded at http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997. The methodology was subsequently generalized by QuanTech for application to other Action Levels.

APPENDIX F

Lead-Based Paint Data

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7134	Calibration									1.06	OK	OK
7135	Calibration									1.02	OK	OK
7136	Calibration									1.04	OK	OK
7137	Calibration									1.04	OK	OK
7138	Interior	2	Hall 227	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7139	Interior	2	Hall 227	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7140	Interior	2	Hall 227	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7141	Interior	2	Mech 224	A	Brown	Ladder	Ladder	Metal	Intact	0.06	Negative	Positive
7142	Interior	2	Mech 224	A	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7143	Interior	2	Mech 222	D	Brown	Door	Door	Metal	Intact	0.02	Negative	Positive
7144	Interior	2	Mech 222	D	Brown	Door	Jamb	Metal	Intact	0.02	Negative	Positive
7145	Interior	2	Storage #6	C	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7146	Interior	2	Storage #6	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7147	Interior	2	Storage #6	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7148	Interior	2	Storage #6	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7149	Interior	2	Storage #6	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7150	Interior	2	Closed Stacks	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7151	Interior	2	Closed Stacks	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7152	Interior	2	Closed Stacks	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7153	Interior	2	Closed Stacks	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7154	Interior	2	Closed Stacks	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7155	Interior	2	Closed Stacks	B	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive
7156	Interior	2	Roof Access	C	Brown	Door	Door	Metal	Intact	0.02	Negative	Positive
7157	Interior	2	Roof Access	C	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7158	Interior	2	Elevator Room	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7159	Interior	2	Elevator Room	B	Brown	Door	Door	Metal	Intact	0.02	Negative	Positive
7160	Interior	2	Elevator Room	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7161	Interior	2	Elevator Room	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7162	Interior	2	Elevator Room	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7163	Interior	2	Elevator Room	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7164	Interior	2	Elevator	Center	Light Brown	Door	Door	Metal	Intact	0.55	Negative	Positive
7165	Interior	2	Stair#3	B	Brown	Door	Door	Metal	Intact	0.01	Negative	Positive
7166	Interior	2	Stair#3	B	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive

EPA/HUD Positive
OSHA Positive

Pennoni

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7167	Interior	2	Stair#3	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7168	Interior	2	Stair#3	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7169	Interior	2	Stair#3	Center	White	Pipe	Vertical	Metal	Intact	0.05	Negative	Positive
7170	Interior	2	Hall 221	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7171	Interior	2	Hall 221	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7172	Interior	2	Hall 221	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7173	Interior	2	Hall 221	C	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7174	Interior	2	Mens Room	B	Brown	Door	Frame	Metal	Intact	0.02	Negative	Positive
7175	Interior	2	Womens Room	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7176	Interior	2	Mens Rm	A	Tan	Wall		Ceramic Wall	Intact	0.01	Negative	Positive
7177	Interior	2	Mens Rm	B	Tan	Wall		Ceramic Wall	Intact	0.01	Negative	Positive
7178	Interior	2	Business Office	B	White	Wall		Drywall	Intact	0.00	Negative	Negative
7179	Interior	2	Business Office	A	White	Wall		Drywall	Intact	0.00	Negative	Negative
7180	Interior	2	Business Office	D	White	Wall		Drywall	Intact	0.00	Negative	Negative
7181	Interior	2	Business Office	D	Brown	Window	Frame	Metal	Intact	0.07	Negative	Positive
7182	Interior	2	Business Office	D	Brown	Door	Frame	Metal	Intact	0.05	Negative	Positive
7183	Interior	2	Childrens Section	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7184	Interior	2	Childrens Section	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7185	Interior	2	Childrens Section	Center	Orange	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7186	Interior	2	Childrens Section	Center	Red	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7187	Interior	2	Childrens Section	Center	Yellow	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7188	Interior	2	Childrens Section	Center	Green	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7189	Interior	2	Childrens Section	Center	Blue	Support Column	pillar	Drywall	Intact	0.00	Negative	Negative
7190	Interior	2	Childrens Section	A	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7191	Interior	2	Childrens Section	A	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive
7192	Interior	2	Childrens Section	A	Orange	Door	Jamb	Drywall	Intact	0.00	Negative	Negative
7193	Interior	2	Childrens Section	A	Tan	Door	Jamb	Drywall	Intact	0.00	Negative	Negative
7194	Interior	2	Story Rm	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7195	Interior	2	Story Rm	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7196	Interior	2	Story Rm	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7197	Interior	2	Story Rm	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7198	Interior	2	Story Rm	D	Brown	Door	Frame	Metal	Intact	0.10	Negative	Positive
7199	Interior	2	Story Rm	C	Brown	Window	Casting	Metal	Intact	0.00	Negative	Negative

EPA/HUD Positive
OSHA Positive

Pennoni

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7200	Interior	1	Stair#4	Center	Brown	Stair	Risers	Metal	Intact	0.04	Negative	Positive
7201	Interior	1	Stair#4	Center	Brown	Stair	Baseboard	Metal	Intact	0.06	Negative	Positive
7202	Interior	1	Stair#4	Center	Brown	Stair	Balusters	Metal	Intact	0.02	Negative	Positive
7203	Interior	1	Stair#4	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7204	Interior	1	Stair#4	B	White	Wall	Wall	Drywall	Intact	0.01	Negative	Positive
7205	Interior	1	Stair#4	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7206	Interior	1	Stair#4	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7207	Interior	1	Stair#4	B	Brown	Door	Door	Metal	Intact	0.01	Negative	Positive
7208	Interior	1	Stair#4	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7209	Interior	1	Employee Lounge	D	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7210	Interior	1	Employee Lounge	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7211	Interior	1	Employee Lounge	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7212	Interior	1	Employee Lounge	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7213	Interior	1	Employee Lounge	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7214	Interior	1	Employee Lounge	C	Brown	Window	Casting	Metal	Intact	0.00	Negative	Negative
7215	Interior	1	Employee Lounge	C	Black	Window	Sill	Concrete	Intact	0.00	Negative	Negative
7216	Interior	1	Technical Processing	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7217	Interior	1	Technical Processing	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7218	Interior	1	Technical Processing	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7219	Interior	1	Technical Processing	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7220	Interior	1	Hall 114	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7221	Interior	1	Hall 114	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7222	Interior	1	Hall 114	B	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7223	Interior	1	Hall 114	B	Brown	Door	Jamb	Metal	Intact	0.02	Negative	Positive
7224	Interior	1	Hall 114	D	White	Electric Panel	Frame	Metal	Intact	0.01	Negative	Positive
7225	Interior	1	Hall 114	D	White	Electric Panel	Door	Metal	Intact	0.01	Negative	Positive
7226	Interior	1	Extension Room 123	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7227	Interior	1	Extension Room 123	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7228	Interior	1	Extension Room 123	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7229	Interior	1	Extension Room 123	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7230	Interior	1	Extension Room 123	D	Brown	Window	Casting	Metal	Intact	0.00	Negative	Negative
7231	Interior	1	Extension Room 123	A	Tan	Bookcase	Shelf	Metal	Intact	0.01	Negative	Positive
7232	Interior	1	Extension Room 123	A	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive

EPA/HUD Positive
OSHA Positive

Pennoni

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7233	Interior	1	Storage 121	A	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7234	Interior	1	Storage 121	B	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7235	Interior	1	Storage 121	C	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7236	Interior	1	Storage 121	D	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7237	Interior	1	Hall 120	A	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7238	Interior	1	Hall 120	B	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7239	Interior	1	Hall 120	C	White	Wall	Wall	CMU	Intact	0.00	Negative	Negative
7240	Interior	1	Hall 120	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7241	Interior	1	Hall 120	D	Red	Door	Door	Metal	Intact	0.00	Negative	Negative
7242	Interior	1	Hall 120	D	Gray	Door	Door	Metal	Intact	0.00	Negative	Negative
7243	Interior	1	Hall 120	D	Red	Door	Frame	Metal	Intact	0.01	Negative	Positive
7244	Interior	1	Garage 117	B	Brown	Door	Frame	Metal	Intact	0.02	Negative	Positive
7245	Interior	1	Garage 117	B	Brown	Door	Door	Metal	Intact	0.01	Negative	Positive
7246	Interior	1	Garage 117	D	Gray	Door	Door	Metal	Intact	0.00	Negative	Negative
7247	Interior	1	Garage 117	D	Gray	Door	Frame	Metal	Intact	0.00	Negative	Negative
7248	Interior	1	Garage 117	Center	Yellow	Wall		Concrete	Intact	0.00	Negative	Negative
7249	Interior	1	Garage 117	A	Tan	HVAC	Vent Casing	Metal	Intact	0.02	Negative	Positive
7250	Interior	1	Mens 115	A	Tan	Wall	Wall	No Selection	Intact	0.01	Negative	Positive
7251	Interior	1	Mens 115	D	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7252	Interior	1	Janitor 111	D	Brown	Door	Frame	Metal	Intact	0.01	Negative	Positive
7253	Interior	1	Janitor 111	D	Brown	Door	Jamb	Metal	Intact	0.01	Negative	Positive
7254	Interior	1	Janitor 111	D	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7255	Interior	1	Janitor 111	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7256	Interior	1	Janitor 111	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7257	Interior	1	Janitor 111	A	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7258	Interior	1	Janitor 111	C	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7259	Interior	1	Janitor 111	Center	Tan	Bookcase	Shelf	Metal	Intact	0.00	Negative	Negative
7260	Interior	1	Janitor 111	Center	Tan	Bookcase	Shelf	Metal	Intact	0.00	Negative	Negative
7261	Interior	1	Main Library	Center	Yellow	Support Column	pillar	Concrete	Intact	0.00	Negative	Negative
7262	Interior	1	Main Library	Center	Yellow	Support Column	pillar	Concrete	Intact	0.00	Negative	Negative
7263	Interior	1	Main Library	Center	White	Soffit		Drywall	Intact	0.00	Negative	Negative
7264	Interior	1	Main Library	A	Blue	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7265	Interior	1	Main Library	D	Light Blue	Wall	Wall	Drywall	Intact	0.00	Negative	Negative

EPA/HUD Positive
OSHA Positive

LEAD-BASED PAINT SCREENING

515 Grove Street, Suite 1B
Haddon Heights, NJ 08035

Client: Greenman-Pederson, Inc.
Project #: GRMNP24004
Facility: Norristown Public Library
1001 Powell Street, Norristown, PA 19401

Date: 6/5/2024
Inspector: J. Humble
Inspector Permit #: 059688
XRF Serial #: X550-02405

Reading No	Interior/Exterior	Floor	Room	Wall	Color	Components1	Component2	Substrate	Condition	Pb (mg/cm^2)	EPA/HUD	OSHA
7266	Interior	1	106 Lobby	B	White	Wall	Wall	Drywall	Intact	0.00	Negative	Negative
7267	Exterior	1		A	Brown	Door	Frame	Metal	Intact	0.00	Negative	Negative
7268	Exterior	1		A	Black	Window	Casting	Metal	Intact	0.00	Negative	Negative
7269	Exterior	1		A	Brown	Door	Door	Metal	Intact	0.00	Negative	Negative
7270	Calibration									1.01	OK	OK
7271	Calibration									1.01	OK	OK
7272	Calibration									1.02	OK	OK
7273	Calibration									1.01	OK	OK

EPA/HUD Positive
OSHA Positive

APPENDIX G

Hazardous Materials Inventory

HAZARDOUS MATERIALS INVENTORY FORM

Project Number: GRMNP24004 Page 3 of

Site: Inspector: Rick Eg

Building: Norristown Public Library Reviewed By: Jeremy Humble

Floor: 1st Date: 6/4/24

Type	Fluorescent Bulbs	Count
2 ft		
4 ft	60+72+16+8+16+6+55+22+124+11<	
~~4 ft~~ ~~8 ft~~ other	8+10+463 1852+100	
CFL Bulbs		
Type	**Ballast (PCB containing)**	**Count**
2 ft		
4 ft	15+4+2+6+8+30+7+6+11+2+6	
~~8 ft~~ / other	900 +25	
	Emergency Batteries/ Lights	**Count**
	2+2	
	Mercury Thermostat Switches	**Count**
	25 (Exterior)	
	Smoke Detectors	**Count**
	2+3+1+6+4+2+4+1+2+4+1+4	
Type	**Transformers**	**Count**
Dryed		
Oil filled		
Type	**Ozone Depleting Substances/ Equipment**	**Count**
AC Units		
Refrig/ Freezer	2+1 mini fridge +1 mini freezer +1 drink machine	
Cooler/ Fountains	1	
Freon tanks		
Other	Printers +/-	
Type	**Other Substances/ Equipment**	**Count**
Lead-Acid Batteries	2	
Stored Chemicols		
	NOTES	

Compressor (garage 1st)

HAZARDOUS MATERIALS INVENTORY FORM

Project Number: GRMNP24004 Page 1 of

Site: Inspector: Ricky

Building: Norristown Public Library Reviewed By: Tom Adams

Floor: 2nd, Date: 6/3/24 /6/4/24

Type	Fluorescent Bulbs	Count
2 ft	2+4	
4 ft	30+16+18+14+16+4+4+4+100+16+8+60	
8 ft / other		
CFL Bulbs		
Mercury bulbs	3	
Type	**Ballast (PCB containing)**	**Count**
2 ft	1+1	
4 ft	~~30+~~ 20+15+8+2+2+32+3+2+40	
8 ft / other		
Ushape	9+10+3	
	Emergency Batteries/ Lights	**Count**
	2	
	Mercury Thermostat Switches	**Count**
	Smoke Detectors	**Count**
	4+4+5+1+1+8+1+2+1+16	
Type	**Transformers**	**Count**
Dryed	1	
Oil filled		
Type	**Ozone Depleting Substances/ Equipment**	**Count**
AC Units		
Refrig/ Freezer		
Cooler/ Fountains		
Freon tanks		
Other		
Type	**Other Substances/ Equipment**	**Count**
Lead-Acid Batteries	2	
Stored Chemicals		
Diesel Gen	1	
	NOTES	

Elevator Cars
Ushape bulbs (18)(32)(6)

HAZARDOUS MATERIALS INVENTORY FORM

Project Number: GRMNP24007 Page 2 of

Site: Inspector: Rob Ey

Building: Norristown Public Library Reviewed By: Jeremy Hunt

Floor: 2 Date: 6/4/24

Type	Fluorescent Bulbs	Count
2 ft		
4 ft	20+20+8+16+32	
8 ft / other		
CFL Bulbs	46	
Type	**Ballast (PCB containing)**	**Count**
2 ft		
4 ft	5+1+5+4+8+8	
8 ft / other		
	Emergency Batteries/ Lights	**Count**
	Mercury Thermostat Switches	**Count**
	Smoke Detectors	**Count**
	1+2+1+10	
Type	**Transformers**	**Count**
Dryed		
Oil filled		
Type	**Ozone Depleting Substances/ Equipment**	**Count**
AC Units		
Refrig/ Freezer		
Cooler/ Fountains		
Freon tanks		
Other		
Type	**Other Substances/ Equipment**	**Count**
Lead-Acid Batteries		
Stored Chemicals		
	NOTES	

APPENDIX I

PCB Laboratory Analytical Certificates

EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

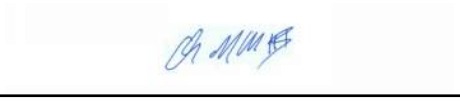
July 19, 2024

Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 7/5/2024. The results are tabulated on the attached pages for the following client designated project:

Norristown Public Library

The reference number for these samples is EMSL Order #: AC22313 . Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact the lab at 856-858-4800.



Owen McKenna Laboratory Manager or other approved signatory

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Quality Assurance Results	18
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Certifications	21
Qualifiers, Definitions and Disclaimer	22
Chain of Custody PDF	23

EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Condition on Receipt

Cooler ID: Default Cooler **Temperature:** **°C**

Custody Seals	Y
Containers Intact	Y
COC/Labels Agree	Y
Preservation Confirmed	Y

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. All results for soil samples are reported on a dry weight basis, unless otherwise noted.

EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library
Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
AC22313-01	PCB-3-1	Solid	07/05/2024	07/05/2024
AC22313-02	PCB-6-1	Solid	07/05/2024	07/05/2024
AC22313-03	PCB-7-1	Solid	07/05/2024	07/05/2024
AC22313-04	PCB-21-1	Solid	07/05/2024	07/05/2024
AC22313-05	PCB-33-1	Solid	07/05/2024	07/05/2024
AC22313-06	PCB-34-1	Solid	07/05/2024	07/05/2024
AC22313-07	PCB-38-1	Solid	07/05/2024	07/05/2024
AC22313-08	PCB-39-1	Solid	07/05/2024	07/05/2024
AC22313-09	PCB-40-1	Solid	07/05/2024	07/05/2024
AC22313-10	PCB-46-1	Solid	07/05/2024	07/05/2024
AC22313-11	PCB-49-1	Solid	07/05/2024	07/05/2024

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Positive Hits Summary

Lab ID	Client ID				Sampled
AC22313-01	PCB-3-1				07/05/24 00:00
Method	Analyte	Result	Qualifier	Unit	Analyzed
SW846-8082A	Aroclor-1248	2.7		mg/kg	07/15/2024 17:56

Lab ID	Client ID				Sampled
AC22313-03	PCB-7-1				07/05/24 00:00
Method	Analyte	Result	Qualifier	Unit	Analyzed
SW846-8082A	Aroclor-1248	5.8		mg/kg	07/15/2024 18:39

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Results

Sample: PCB-3-1
AC22313-01 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	**2.7**		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	SW846-8082A

Surrogate(s)	Recovery	Q	Limits					
Surrogate: Tetrachloro-m-xylene	*67%*		*10-112*	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*69%*		*10-123*	07/11/24 12:52	07/15/24 17:56	SXD/KAC	SW846 3540C	*SW846-8082A*

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Results
(Continued)

Sample: PCB-6-1
AC22313-02 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*55%*			*10-112*		07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*53%*			*10-123*		07/11/24 12:52	07/15/24 18:18	SXD/KAC	SW846 3540C	*SW846-8082A*

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EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

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Sample Results
(Continued)

Sample: PCB-7-1
AC22313-03 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	**5.8**		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.94	mg/kg	07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*47%*			*10-112*		07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*49%*			*10-123*		07/11/24 12:52	07/15/24 18:39	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-21-1
AC22313-04 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*54%*			*10-112*		07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*57%*			*10-123*		07/11/24 12:52	07/15/24 19:00	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-33-1
AC22313-05 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*73%*			*10-112*		07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*73%*			*10-123*		07/11/24 12:52	07/15/24 19:22	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-34-1
AC22313-06 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.96	mg/kg	07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*70%*			*10-112*		07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*79%*			*10-123*		07/11/24 12:52	07/15/24 19:43	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-38-1
AC22313-07 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND	D	20	20	mg/kg	07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*40%*			*10-112*		07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*47%*			*10-123*		07/11/24 12:52	07/16/24 11:24	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-39-1
AC22313-08 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*35%*			*10-112*		07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*37%*			*10-123*		07/11/24 12:52	07/15/24 20:05	SXD/KAC	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-40-1
AC22313-09 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*37%*			*10-112*		07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*33%*			*10-123*		07/11/24 12:52	07/15/24 22:13	SXD/AxJ	SW846 3540C	*SW846-8082A*

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EMSL Analytical, Inc.

200 Route 130, Cinnaminson, NJ, 08077
Telephone: 856-858-4800 Fax:856-786-5974
EMSL-CIN-01

EMSL Order ID: 012422313
LIMS Reference ID: AC22313
EMSL Customer ID: PENN50

Attention: Thomas Adams
Pennoni Associates, Inc. [PENN50]
515 Grove Street
Haddon Heights, NJ 08035
(856) 656-2912
Tadams@pennoni.com

Project Name: Norristown Public Library

Customer PO:
EMSL Sales Rep: Jeromy Bish
Received: 07/05/2024 12:30
Reported: 07/19/2024 16:46

Sample Results
(Continued)

Sample: PCB-46-1
AC22313-10 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	1.0	mg/kg	07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*85%*			*10-112*		07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*83%*			*10-123*		07/11/24 12:52	07/15/24 20:26	SXD/AxJ	SW846 3540C	*SW846-8082A*

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Sample Results
(Continued)

Sample: PCB-49-1
AC22313-11 (Solid)

Analyte	Result	Q	DF	RL	Units	Prepared Date/Time	Analyzed Date/Time	Prep/Analyst Initials	Prep Method	Analytical Method
GC-SVOA										
Aroclor-1016	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1221	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1232	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1242	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1248	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1254	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1260	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1262	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Aroclor-1268	ND		1	0.83	mg/kg	07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	SW846-8082A
Surrogate(s)	**Recovery**	**Q**		**Limits**						
Surrogate: Tetrachloro-m-xylene	*70%*			*10-112*		07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	*SW846-8082A*
Surrogate: Decachlorobiphenyl	*68%*			*10-123*		07/09/24 14:02	07/10/24 23:51	CWA/KAC	SW846 3540C	*SW846-8082A*

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Quality Control

GC-SVOA

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0831 - SW846 3540C										
Blank (BCG0831-BLK1)					Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*81*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*81*	*10-123*		
Blank (BCG0831-BLK2)					Prepared: 7/9/2024 Analyzed: 7/11/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*70*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*73*	*10-123*		
LCS (BCG0831-BS1)					Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	3.87		0.25	mg/kg	5.000		77	23-111		
Aroclor-1260	4.10		0.25	mg/kg	5.000		82	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*80*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*77*	*10-123*		

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Quality Control
(Continued)

GC-SVOA (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG0831 - SW846 3540C (Continued)										
LCS (BCG0831-BS2)					Prepared: 7/9/2024 Analyzed: 7/11/2024					
Aroclor-1016	3.49		0.25	mg/kg	5.000		70	23-111		
Aroclor-1260	3.72		0.25	mg/kg	5.000		74	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*70*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*69*	*10-123*		
Matrix Spike (BCG0831-MS1)			**Source: AC21780-01**		Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	4.18		0.25	mg/kg	4.950	ND	84	10-111		
Aroclor-1260	4.31		0.25	mg/kg	4.950	ND	87	10-132		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.4950*		*88*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.4950*		*79*	*10-123*		
Matrix Spike Dup (BCG0831-MSD1)			**Source: AC21780-01**		Prepared: 7/9/2024 Analyzed: 7/10/2024					
Aroclor-1016	4.16		0.25	mg/kg	4.926	ND	84	10-111	0.4	28
Aroclor-1260	4.20		0.25	mg/kg	4.926	ND	85	10-132	3	28
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.4926*		*84*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.4926*		*79*	*10-123*		
Batch: BCG1153 - SW846 3540C										
Blank (BCG1153-BLK1)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*66*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*76*	*10-123*		

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Quality Control
(Continued)

GC-SVOA (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BCG1153 - SW846 3540C (Continued)										
Blank (BCG1153-BLK2)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	ND		0.25	mg/kg						
Aroclor-1221	ND		0.25	mg/kg						
Aroclor-1232	ND		0.25	mg/kg						
Aroclor-1242	ND		0.25	mg/kg						
Aroclor-1248	ND		0.25	mg/kg						
Aroclor-1254	ND		0.25	mg/kg						
Aroclor-1260	ND		0.25	mg/kg						
Aroclor-1262	ND		0.25	mg/kg						
Aroclor-1268	ND		0.25	mg/kg						
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*53*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*65*	*10-123*		
LCS (BCG1153-BS1)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	3.74		0.25	mg/kg	5.000		75	23-111		
Aroclor-1260	4.11		0.25	mg/kg	5.000		82	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*67*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*80*	*10-123*		
LCS (BCG1153-BS2)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	2.90		0.25	mg/kg	5.000		58	23-111		
Aroclor-1260	3.30		0.25	mg/kg	5.000		66	29-119		
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*51*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*63*	*10-123*		
LCS Dup (BCG1153-BSD1)					Prepared: 7/11/2024 Analyzed: 7/15/2024					
Aroclor-1016	3.61		0.25	mg/kg	5.000		72	23-111	3	25
Aroclor-1260	4.00		0.25	mg/kg	5.000		80	29-119	3	25
Surrogate(s)										
Surrogate: Tetrachloro-m-xylene					*0.5000*		*66*	*10-112*		
Surrogate: Decachlorobiphenyl					*0.5000*		*78*	*10-123*		

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Certified Analyses included in this Report

Analyte	CAS #	Certifications
SW846-8082A in Solid		
Aroclor-1016	12674-11-2	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1221	11104-28-2	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1232	11141-16-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1242	53469-21-9	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1248	12672-29-6	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1254	11097-69-1	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1260	11096-82-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1260 [2C]	11096-82-5	NJDEP,NYSDOH,PADEP,California ELAP
Aroclor-1262	37324-23-5	NJDEP,NYSDOH,PADEP
Aroclor-1268	11100-14-4	NJDEP,NYSDOH,PADEP

List of Certifications

Code	Description	Number	Expires
PADEP	Pennsylvania Department of Environmental Protection	68-00367	11/30/2024
NYSDOH	New York State Department of Health	10872	04/01/2025
NJDEP	New Jersey Department of Environmental Protection	03036	06/30/2024
MADEP	Massachusetts Department of Environmental Protection	M-NJ337	06/30/2024
CTDPH	Connecticut Department of Public Health	PH-0270	06/23/2024
California ELAP	California Water Boards	1877	06/30/2024
AIHA LAP	EMSL Analytical, Inc. Cinnaminson, NJ AIHA-LAP, LLC-ELLAP Accredited	100194	01/01/2025
A2LA	A2LA Environmental Certificate	2845.01	07/31/2024

Please see the specific Field of Testing (FOT) on www.emsl.com <http://www.emsl.com> for a complete listing of parameters for which EMSL is certified.

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Notes and Definitions

Item	Definition
D	Analyte was reported from a dilution run.
(Dig)	For metals analysis, sample was digested.
[2C]	Reported from the second channel in dual column analysis.
DF	Dilution Factor
MDL	Method Detection Limit.
ND	Analyte was NOT DETECTED at or above the detection limit.
Q	Qualifier
RL	Reporting Limit
Wet	Sample is not dry weight corrected.
%REC	Percent Recovery
RPD	Relative Percent Difference
Source	Sample that was matrix spiked or duplicated

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.

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Environmental Chemistry Chain of Custody

EMSL ANALYTICAL, INC.

EMSL Order Number / Lab Use Only: AC22313 1 of 2

EMSL Analytical, Inc.
200 Rt. 130 N
Cinnaminson, NJ 08077
PHONE: (800) 220-3675
EMAIL: EnvChemistry2@EMSL.com

Customer Information

Customer ID: PENNOSD
Company Name: PENNONI
Contact Name: THOMAS ADAMS
Street Address: 505 BRIDGE STE. SUITE 1B
City, State, Zip: HADDON HEIGHTS NJ. Country:
Phone:
Email(s) for Report: TADAMS@PENNONI.COM

Billing Information

Billing ID:
Company Name:
Billing Contact:
Street Address:
City, State, Zip: Country:
Phone:
Email(s) for Invoice:

Project Name/No: NORRISTOWN PUBLIC LIBRARY GRMNP24004
Purchase Order: 10

EMSL LIMS Project ID: (If applicable, EMSL will provide)
US State where samples collected: PA
State of Connecticut (CT) must select project location: ☐ Commercial (Taxable) ☐ Residential (Non-Taxable)

Samples for Compliance? ☐ Yes ☒ No If Yes, for NPDES? ☐ Yes ☒ No
Other (Specify)
PWS ID:
State Reporting Required? ☐ Yes ☐ No

Samples Collected by (Check One): ☐ EMSL ☐ CLIENT
Samples Received Chilled? ☐ Yes ☐ No
Sample(s) Temperature Upon Receipt (LAB ONLY)

Sampled By Name: TADAMS
Sampled By Signature:
No. of Samples in Shipment:

Turn-Around-Time (TAT) Standard Turn-Around-Time: ☒ 2 Weeks
The following TAT's are subject to Lab approval. Call lab to confirm TAT before submittal: ☐ 1 Week ☐ 4 Days ☐ 3 Days ☐ 2 Days ☐ 1 Day

	Client Sample ID	Comp	Grab	Date / Time Collected	Matrix (W=Water S=Soil A=Air SL=Sludge O=Other)	Preservative (1 HCL 2 HNO3 3 H2SO4 4 ICE 5 Other — Describe below in Special Instructions)	Test 1: SW-846-3540C/3546/8082A	Test 2:	Test 3:	Test 4:	Test 5:	Test 6:	Test 7:	Test 8:	Comments
1	PCB-3-1		X	7/5/24	O		X								
2	" -6-1		X	"	"		X								
3	" -7-1		X	"	"		X								
4	" -21-1		X	"	"		X								

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

3540.

Reporting Requirements: ☒ Results Only ☐ Results and QC ☐ Reduced Deliverables ☐ Hzresults EDD ☐ Excel ☐ Other (Describe Above)

Method of Shipment: DROP off
Sample Condition Upon Receipt:
Received on Ice? Check if Yes: ☐

Relinquished by: TADAMS Date/Time: 7/3/24
Received by: CMT Date/Time: 7/3/24 12pm

Relinquished by: Date/Time:
Received by: Date/Time: 7/05/24 12:30pm.

☐ I AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

Environmental Chemistry Chain of Custody

EMSL ANALYTICAL, INC.

EMSL Order Number / Lab Use Only

AC22313

EMSL Analytical, Inc.
200 Rt. 130 N
Cinnaminson, NJ 08077

PHONE: (800) 220-3675
EMAIL: EnvChemistry2@EMSL.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

2ndz

	Client Sample ID	Comp	Grab	Date / Time Collected	Matrix (W=Water, S=Soil, A=Air, SL=Sludge, O=Other)	Preservative (1 HCL, 2 HNO3, 3 H2SO4, 4 ICE, 5 Other – Describe below in Special Instructions)	List Test(s) Needed (Write in test below, then check on sample line:) Test 1:	Test 2:	Test 3:	Test 4:	Test 5:	Test 6:	Test 7:	Test 8:	Comments
							SAME AS PAGE #1								
5	PCB-33-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
6	11-34-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
7	11-38-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
8	11-39-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
9	11-40-1	☐	☒				☐	☐	☐	☐	☐	☐	☐	☐	
10	11-46-1	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	
11	11 49-1	☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐				☐	☐	☐	☐	☐	☐	☐	☐	

Method of Shipment: Drop off		Sample Condition Upon Receipt:	Received on Ice? Check if Yes: ☐
Relinquished by: TA Stamos	Date/Time: 7/5/24	Received by: Phuc VS	Date/Time 7/5/24 1210
Relinquished by:	Date/Time:	Received by:	Date/Time 7/05/24 12:30pm

Controlled Document - COC-07 Chemistry R12 11/07/2023

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer.

APPENDIX B

Norristown Public Library
Site Plans

MONTGOMERY COUNTY NORRISTOWN PUBLIC LIBRARY - DEMO PHASE 1

PROJECT TEAM

OWNER:

MONTGOMERY COUNTY - NORRISTOWN
PUBLIC LIBRARY
1001 POWELL ST.
NORRISTOWN, PA 19401
PHONE:
CONTACT: MEERA PONNAPPA

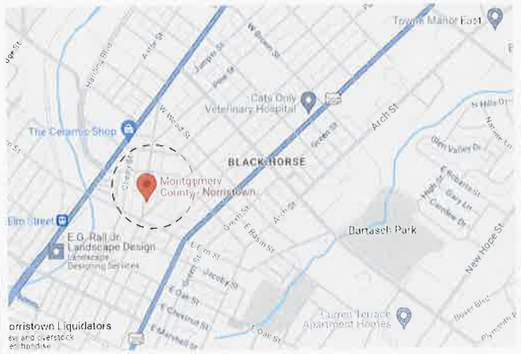
ARCHITECT:

KIMMEL BOGRETTE ARCHITECTURE + SITE, INC.
462 NORRISTOWN ROAD, SUITE 200
BLUE BELL, PA 19422
PHONE: 610.834.7805
CONTACT: LAURA GAMBLE

MEP

McHUGH ENGINEERING ASSOCIATES INC
135 POPLAR ST
AMBLER, PA 19002
PHONE:
CONTACT: RAFAEL CARRERO

REGIONAL MAP



LOCATION MAP



DRAWING LIST

SHEET NUMBER	SHEET NAME
00 COVER PAGE	
CS.0	COVER PAGE
0.1 DEMOLITION	
A1.1a	1st FLOOR DEMO PLAN AREA A
A1.1b	1ST FLOOR DEMO PLAN AREA B
A1.2a	2ND FLOOR DEMO PLAN AREA A
A1.2b	2ND FLOOR DEMO PLAN AREA B
A1.5a	1ST FLOOR DEMO RCP - AREA A
A1.5b	1ST FLOOR DEMO RCP - AREA B
A1.6a	2ND FLOOR DEMO RCP - AREA A
A1.6b	2ND FLOOR DEMO RCP - AREA B
ED-1a	FIRST FLOOR DEMOLITION PLAN AREA A- ELECTRICAL
ED-1b	FIRST FLOOR DEMOLITION PLAN AREA B- ELECTRICAL
ED-2a	SECOND FLOOR DEMOLITION PLAN AREA A- ELECTRICAL
ED-2b	SECOND FLOOR DEMOLITION PLAN AREA B- ELECTRICAL
MD-1a	FIRST FLOOR DEMOLITION PLAN AREA A- MECHANICAL
MD-1b	FIRST FLOOR DEMOLITION PLAN AREA B- MECHANICAL
MD-2a	SECOND FLOOR DEMOLITION PLAN AREA A- MECHANICAL
MD-2b	SECOND FLOOR DEMOLITION PLAN AREA B- MECHANICAL
MD-3a	ROOF DEMOLITION PLAN- AREA A- MECHANICAL
MD-3b	ROOF DEMOLITION PLAN- AREA B- MECHANICAL
PD-1a	FIRST FLOOR DEMOLITION PLAN AREA A- PLUMBING
PD-1b	FIRST FLOOR DEMOLITION PLAN AREA B- PLUMBING
PD-2a	SECOND FLOOR DEMOLITION PLAN AREA A- PLUMBING
PD-2b	SECOND FLOOR DEMOLITION PLAN AREA B- PLUMBING
PD-3a	ROOF DEMOLITION PLAN- AREA A- PLUMBING
PD-3b	ROOF DEMOLITION PLAN- AREA A- PLUMBING

DRAWING SYMBOLS

- SIM / 1 / A101 — SECTION/ELEVATION I.D. NO. / SHEET NO. WHERE SECT./ELEV. IS DRAWN
- SIM / 1 / A101 — DETAIL I.D. NO. / SHEET NO. WHERE DETAIL IS DRAWN
- X / AXX — ELEV. REF. NUMBER
- SHEET NO. WHERE INTERIOR ELEV. IS DRAWN
- 0 — GRID NO.
- LEVEL EL: 0'-0" — REFERENCE LEVEL
- 11 10'-0" — CEILING ELEVATION
- 1 — WALL TYPE
- 11 — WINDOW / CURTAIN WALL / STOREFRONT / VISION PANEL TYPE
- EFL 0'-0" — SPOT ELEVATION
- 1 — REVISION MARK & REVISION CLOUD
- 101 — DOOR NO. / NEW DOOR WHERE 90° SWING SHOWN
- Unit Name / 180 ft² — ROOM NAME / ROOM NO. / ROOM AREA
- 01 — INTERIOR WINDOW





GENERAL REQUIREMENTS

1. IT IS THE INTENT OF THESE DRAWINGS TO SHOW THE FULL GUT RENOVATION OF THE EXISTING MC-NPL BUILDING. THIS BUILDING REQUIRES A COMPLETE INTERIOR AND EXTERIOR RETROFIT OF APPX 75,000 SF, INCLUDING ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION SYSTEMS. THE STRUCTURE OF CONCRETE AND STEEL WILL LARGELY REMAIN UNCHANGED. DEMOLITION WILL BE CONDUCTED IN TWO PHASES. PHASE ONE CONSIST OF A COMPLETE INTERIOR DEMOLITION (STRIPPING THE BUILDING DOWN TO ITS CORE AND SHELL) WHERE AS PHASE TWO DEMOLITION WILL CONSIST OF REMOVING PART OF THE EXISTING EXTERIOR WALL, STAIRS, ELEVATORS, AND FLOOR SLABS.
2. ALL WORK IS TO BE DONE IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODE REQUIREMENTS. PERFORM ALL WORK IN ACCORDANCE WITH APPLICABLE AUTHORITIES HAVING JURISDICTION.
3. IT SHALL BE THE RESPONSIBILITY OF THE ALL CONTRACTORS TO MEET OR EXCEED THE REQUIREMENTS OF THE APPLICABLE GOVERNING CODES AND TO COORDINATE THEIR WORK WITH ALL OTHER DOCUMENTS AND TRADES. THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY CONFLICTS.
4. NO PRODUCTS CONTAINING ASBESTOS OR OTHER HAZARDOUS MATERIAL SHALL BE INSTALLED ON THIS PROJECT OR USED DURING THE CONSTRUCTION OF THE PROJECT.
5. CONTRACTOR SHALL PROVIDE CONSTRUCTION FACILITIES AND TEMPORARY UTILITIES SUCH AS: HEAT, WATER, ELECTRICITY, TELEPHONE, SANITARY FACILITIES, ENCLOSURES, TARPAULINS, BARRICADES, CANOPIES, AND TEMPORARY FENCING AS REQUIRED TO PROTECT THE SITE, THE PUBLIC, AND THE USER OF THE BUILDING, AS REQUIRED AND OUTLINED IN THE SPECIFICATIONS.
6. THE RISK OF LOSS OF ITEMS STORED ON THE SITE SHALL BE EACH CONTRACTORS RESPONSIBILITY. THE CONTRACTORS SHALL PROVIDE THE APPROPRIATE INSURANCE COVERAGE TO MEET THE ABOVE REQUIREMENTS
7. THE CONTRACTOR SHALL APPLY FOR ALL NECESSARY PERMIT. PERMIT WILL BE PAID FOR BY THE OWNER.
8. ANY ITEM NOT COMPATIBLE WITH THE ADJACENT SURFACES SHALL BE ISOLATED AS PER MANUFACTURERS' RECOMMENDATIONS.
9. CONTRACTOR SHALL COORDINATE CAPPING / TERMINATION OF ALL SITE UTILITIES WITH LOCAL AUTHORITIES AND UTILITY PROVIDERS PRIOR TO BEGINNING ANY WORK.
10. FINISH FLOOR ELEVATION DATUM INDICATED ON THE CIVIL DRAWINGS +155' - 0"
11. MECHANICAL CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOR THE ARCHITECT TO LOCATE EXTERIOR LOUVERS, DIFFUSERS AND EXPOSED DUCTWORK DURING THE COORDINATION AND SHOP DRAWING PHASE. THE ARCHITECT RESERVES THE RIGHT TO REASONABLY MODIFY LOCATIONS OF EXTERIOR LOUVERS, DIFFUSERS, AND EXPOSED DUCTWORK WHERE CURRENTLY SHOWN ON THE MECHANICAL DRAWINGS FOR AESTHETIC REASONS. LEAVE ALL EXISTING PENETRATIONS THROUGH EXTERIOR WALL AND ROOF IN PLACE AND COVER PENETRATION (EXCEPT ROOF DRAINS, WHICH ARE TO REMAIN ACTIVE) TO PROPERLY ENSURE ENVELOPE OF BUILDING IS SECURE AND WEATHER-TIGHT.
12. PROVIDE EXTERIOR GRADE PLYWOOD OVER ALL AT GRADE GLAZING OPENINGS.
13. CONTRACTOR SHALL PREVENT MOVEMENT OF STRUCTURE, ENGINEER, PROVIDE AND PLACE BRACING AND SUPPORTS OR SHORING. AND BE RESPONSIBLE FOR SAFETY AND SUPPORT OF STRUCTURE AND ASSUME LIABILITY FOR SUCH MOVEMENT, SETTLEMENT, DAMAGE, OR INJURY. CONTRACTOR SHALL CEASE OPERATION AND NOTIFY THE OWNER / TENANT IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS ENDANGERED AND TAKE PRECAUTIONS TO PROPERLY SUPPORT STRUCTURE. DO NOT RESUME OPERATIONS UNTIL SAFETY IS RESTORED.

KIMMEL BOGRETTE
Architecture + Site
462 Norristown Rd., Suite 200 Blue Bell PA 19422
Phone: 610.834.7805 Facsimile: 610.834.7815

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MONTGOMERY COUNTY
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CONSTRUCTION ISSUE DATE: Issue Date	
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CHECKED BY:	LG
SCALE:	AS NOTED

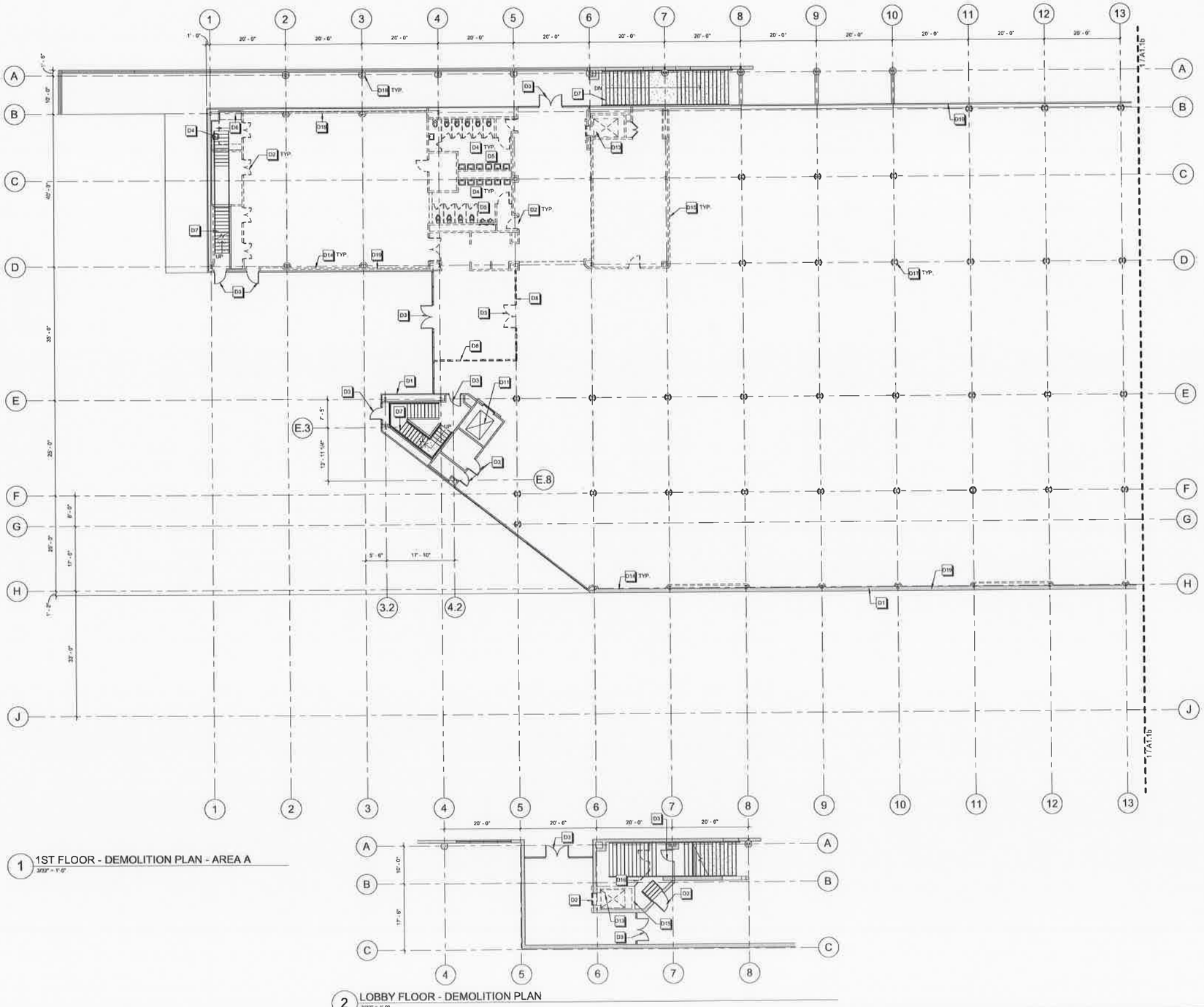
NO	DESCRIPTION	DATE
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7/3/2024 10:57:45 AM

NOT FOR CONSTRUCTION



1 1ST FLOOR - DEMOLITION PLAN - AREA A
3/32" = 1'-0"

2 LOBBY FLOOR - DEMOLITION PLAN
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL HOLD A PRE-DEMOLITION/ INSTALLATION MEETING W/ THE OWNER & ARCHITECT WHICH OUTLINES STRATEGY FOR KEEPING AREA OUTSIDE & ADJACENT TO THE PROJECT AREA OPEN TO THE PUBLIC, SAFE & OPERATIONAL DURING ENTIRE PROJECT TIMELINE, INCLUDING THE TIME UNTIL THE PROJECT BEGINS
2. ALL DIMENSIONS, ELEVATIONS AND PHYSICAL CONDITIONS SHOWN ON THE DRAWINGS FOR EXISTING STRUCTURES ARE BASED ON LIMITED FIELD INSPECTIONS AND OTHER AVAILABLE SOURCES. SUCH DEPICTIONS OF EXISTING CONSTRUCTION ARE INTENDED TO BE GENERAL, APPROXIMATE AND LIMITED TO THOSE AREAS FOR WHICH WORK IS REQUIRED, AND ARE PROVIDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. PRIOR TO BIDDING, CONDUCT A CAREFUL EXAMINATION OF EXISTING CONDITIONS AT THE SITE APPLICABLE TO THE WORK
3. PERFORM DEMOLITION WORK IN ACCORDANCE WITH APPLICABLE AUTHORITIES HAVING JURISDICTION.
4. BURNING OF THE MATERIALS ON SITE IS NOT PERMITTED.
5. DUST CONTROL: CONTRACTOR SHALL MONITOR AND MAINTAIN DUST CONTROL THROUGHOUT THE ENTIRE DEMOLITION PROCESS SO THAT DEMOLITION ACTIVITY CAUSES NO DUST CONDITIONS OUTSIDE THE WORK AREA PREMISES.
6. EXCEPT WHERE OTHERWISE NOTED, IMMEDIATELY (AND PROPERLY) REMOVE DEBRIS FROM THE PROJECT SITE.
7. CONTRACTOR SHALL CAP UTILITY SERVICES WITHIN AREAS OF DEMOLITION WHICH ARE SHOWN AS BEING REUSED UNLESS NOTED OTHERWISE. NOTIFY THE AFFECTED UTILITY COMPANY AND OWNER IN ADVANCE AND OBTAIN THEIR APPROVAL.
8. CONTRACTOR SHALL REFER TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
9. EXISTING ABANDONED SANITARY LINES MAY BE CAPPED AND LEFT IN PLACE. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. CONTRACTOR SHALL PREVENT MOVEMENT OF STRUCTURE. PROVIDE AND PLACE BRACING AND SUPPORTS OR SHORING AND BE RESPONSIBLE FOR SAFETY AND SUPPORT OF STRUCTURE. CONTRACTOR SHALL ASSUME LIABILITY FOR SUCH MOVEMENT, SETTLEMENT, DAMAGE, OR INJURY. CONTRACTOR SHALL CEASE OPERATION AND NOTIFY THE OWNER IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS ENDANGERED. CONTRACTOR TO TAKE PRECAUTIONS UNTIL SAFETY IS RESTORED.
11. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO MINIMIZE DAMAGE TO AREAS NOT SCHEDULED FOR DEMOLITION. ANY DAMAGE AS A RESULT OF DEMOLITION SHALL BE IMMEDIATELY REPAIRED.

DEMOLITION LEGEND

- EXISTING EXTERIOR WALL TO REMAIN
- EXISTING WALL TO BE REMOVED
- EXISTING DOOR / FRAME TO BE REMOVED UNLESS NOTED OTHERWISE; FRAME CAN REMAIN IF ENCAPSULATED WITHIN NEW WALL CONSTRUCTION
- EXISTING WINDOW TO BE REMOVED

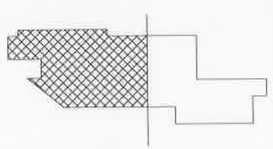
ASBESTOS NOTE

*NOTE: ASBESTOS CONTAINING MATERIALS MAY BE PRESENT WITHIN WORK AREA AND IF DISCOVERED, SHALL BE REMOVED BY GENERAL CONTRACTOR AS PART OF THE BASE BID SCOPE OF WORK UTILIZING PROPER PROCEDURES AS REQUIRED BY LAW. REFER TO UPCOMING ENVIRONMENTAL SURVEY REPORT THAT WILL BE ISSUED BY THE OWNER TO DETERMINE EXTENT OF ANY ASBESTOS CONTAINING MATERIALS AND POTENTIAL ABATEMENT REQUIREMENTS.

REFER TO MECHANICAL, ELECTRICAL & PLUMBING NOTES FOR DEMOLITION SCOPE OF WORK
REFER TO MEP DWGS FOR MORE INFORMATION.

KEYNOTE LEGEND - DEMOLITION PLAN

KEY VALUE	KEYNOTE TEXT
D1	EXISTING CONSTRUCTION TO REMAIN, TYP. (SHOWN IN SHADED GRAY WALLS)
D2	DEMOLISH EXISTING DOORS AND FRAMES.
D3	EXISTING WINDOWS, DOOR AND FRAMES TO REMAIN.
D4	DEMOLISH ALL PLUMBING FIXTURES (TOILETS, URINALS, LAVATORIES, SINKS, DRINKING FOUNTAINS, MOP SINKS, PARTITIONS & TOILET ACCESSORIES). REFER TO PLUMBING DWGS. FOR ADDITIONAL INFORMATION.
D5	DEMOLISH EXISTING MIRROR.
D6	DEMOLISH ALL EXISTING COUNTERTOPS, CASEWORK AND APPLIANCES.
D7	EXISTING STAIRS AND RAILING TO REMAIN.
D8	DEMOLISH EXISTING INTERIOR GLAZING SYSTEM.
D9	DEMOLISH GWB CEILINGS, EXTERIOR SOFFIT CEILINGS, ACOUSTICAL CEILINGS TILES, GRIDS, ALL ASSOCIATED HANGERS AND SUPPORT. REFER TO ELECTRICAL DWGS. FOR MORE INFORMATION.
D10	REMOVE EXISTING LIGHT FIXTURES, GRILLS AND DIFFUSERS. REFER TO MECHANICAL DWGS. FOR MORE INFORMATION.
D11	EXISTING ELEVATOR TO REMAIN.
D12	REFER TO MEP DEMO PLANS FOR SPECIFIC REQUIREMENTS FOR MECHANICAL AND ELECTRICAL ROOMS.
D13	DEMOLISH EXISTING ELEVATOR CAB & FINISHES.
D14	DEMOLISH ALL EXISTING DISPLAY PANELS, TYP.
D15	DEMOLISH EXISTING WALLS, TYP.
D16	DEMOLISH EXISTING WIRE SCREEN AND DOOR.
D17	DEMOLISH EXISTING PLASTER COLUMN WRAP AND FURRING CHANNELS DOWN TO ITS STRUCTURE.
D18	EXISTING CONCRETE COLUMN ENCLOSURE TO REMAIN
D19	REMOVE ALL DRYWALL ALONG EXISTING EXTERIOR WALL, TYP.



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482 Norristown Rd, Suite 200
Blue Bell PA 19422
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Fax/Info: 610.834.7615
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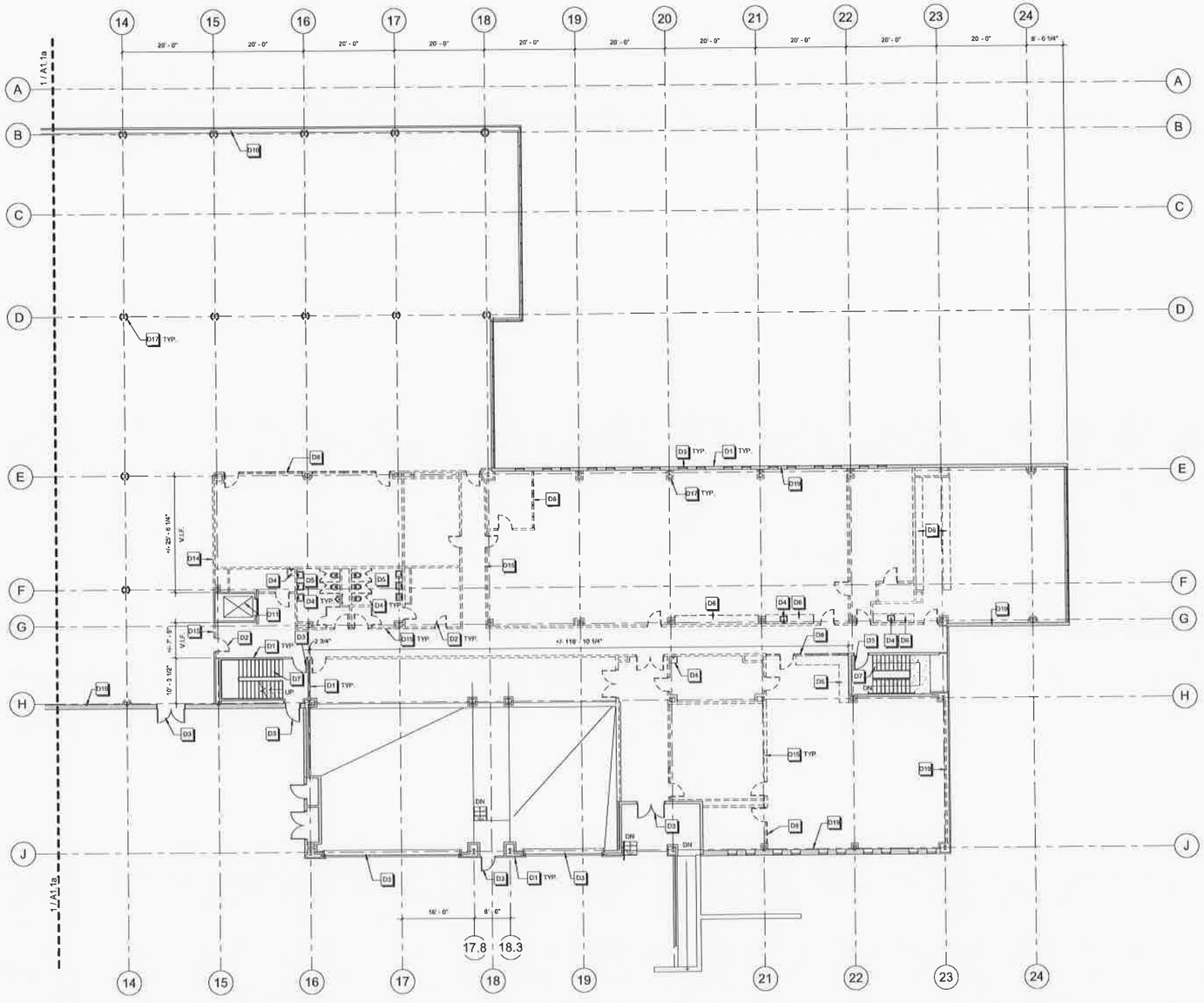
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NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

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7/12/2024 10:07:47 AM

NOT FOR CONSTRUCTION



1 1ST FLOOR - DEMOLITION PLAN - AREA B
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL HOLD A PRE DEMOLITION/ INSTALLATION MEETING W/ THE OWNER & ARCHITECT WHICH OUTLINES STRATEGY FOR KEEPING AREA OUTSIDE & ADJACENT TO THE PROJECT AREA OPEN TO THE PUBLIC, SAFE & OPERATIONAL DURING ENTIRE PROJECT TIMELINE, INCLUDING THE TIME UNTIL THE PROJECT BEGINS.
2. ALL DIMENSIONS, ELEVATIONS AND PHYSICAL CONDITIONS SHOWN ON THE DRAWINGS FOR EXISTING STRUCTURES ARE BASED ON LIMITED FIELD INSPECTIONS AND OTHER AVAILABLE SOURCES. SUCH DEPICTIONS OF EXISTING CONSTRUCTION ARE INTENDED TO BE GENERAL, APPROXIMATE AND LIMITED TO THOSE AREAS FOR WHICH WORK IS REQUIRED, AND ARE PROVIDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. PRIOR TO BIDDING, CONDUCT A CAREFUL EXAMINATION OF EXISTING CONDITIONS AT THE SITE APPLICABLE TO THE WORK
3. PERFORM DEMOLITION WORK IN ACCORDANCE WITH APPLICABLE AUTHORITIES HAVING JURISDICTION.
4. BURNING OF THE MATERIALS ON SITE IS NOT PERMITTED.
5. DUST CONTROL: CONTRACTOR SHALL MONITOR AND MAINTAIN DUST CONTROL THROUGHOUT THE ENTIRE DEMOLITION PROCESS SO THAT DEMOLITION ACTIVITY CAUSES NO DUST CONDITIONS OUTSIDE THE WORK AREA PREMISES.
6. EXCEPT WHERE OTHERWISE NOTED, IMMEDIATELY (AND PROPERLY) REMOVE DEBRIS FROM THE PROJECT SITE.
7. CONTRACTOR SHALL CAP UTILITY SERVICES WITHIN AREAS OF DEMOLITION WHICH ARE SHOWN AS BEING REUSED UNLESS NOTED OTHERWISE. NOTIFY THE AFFECTED UTILITY COMPANY AND OWNER IN ADVANCE AND OBTAIN THEIR APPROVAL
8. CONTRACTOR SHALL REFER TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
9. EXISTING ABANDONED SANITARY LINES MAY BE CAPPED AND LEFT IN PLACE. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. CONTRACTOR SHALL PREVENT MOVEMENT OF STRUCTURE. PROVIDE AND PLACE BRACING AND SUPPORTS OR SHORING AND BE RESPONSIBLE FOR SAFETY AND SUPPORT OF STRUCTURE. CONTRACTOR SHALL ASSUME LIABILITY FOR SUCH MOVEMENT, SETTLEMENT, DAMAGE, OR INJURY. CONTRACTOR SHALL CEASE OPERATION AND NOTIFY THE OWNER IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS ENDANGERED. CONTRACTOR TO TAKE PRECAUTIONS UNTIL SAFETY IS RESTORED.
11. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO MINIMIZE DAMAGE TO AREAS NOT SCHEDULED FOR DEMOLITION. ANY DAMAGE AS A RESULT OF DEMOLITION SHALL BE IMMEDIATELY REPAIRED.

DEMOLITION LEGEND

- EXISTING EXTERIOR WALL TO REMAIN
- EXISTING WALL TO BE REMOVED
- EXISTING DOOR / FRAME TO BE REMOVED UNLESS NOTED OTHERWISE. FRAME CAN REMAIN IF ENCAPSULATED WITHIN NEW WALL CONSTRUCTION
- EXISTING WINDOW TO BE REMOVED

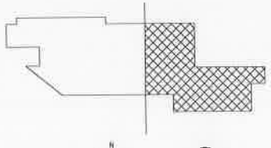
ASBESTOS NOTE

*NOTE: ASBESTOS CONTAINING MATERIALS MAY BE PRESENT WITHIN WORK AREA AND IF DISCOVERED, SHALL BE REMOVED BY GENERAL CONTRACTOR AS PART OF THE BASE BID SCOPE OF WORK UTILIZING PROPER PROCEDURES AS REQUIRED BY LAW. REFER TO UPCOMING ENVIRONMENTAL SURVEY REPORT THAT WILL BE ISSUED BY THE OWNER TO DETERMINE EXTENT OF ANY ASBESTOS CONTAINING MATERIALS AND POTENTIAL ABATEMENT REQUIREMENTS.

REFER TO MECHANICAL, ELECTRICAL & PLUMBING NOTES FOR DEMOLITION SCOPE OF WORK REFER TO MEP DWGS FOR MORE INFORMATION.

KEYNOTE LEGEND - DEMOLITION PLAN

KEY VALUE	KEYNOTE TEXT
D1	EXISTING CONSTRUCTION TO REMAIN, TYP. (SHOWN IN SHADED GRAY WALLS)
D2	DEMOLISH EXISTING DOORS AND FRAMES.
D3	EXISTING WINDOWS, DOOR AND FRAMES TO REMAIN.
D4	DEMOLISH ALL PLUMBING FIXTURES (TOILETS, URINALS, LAVATORIES, SINKS, DRINKING FOUNTAINS, MOP SINKS, PARTITIONS & TOILET ACCESSORIES). REFER TO PLUMBING DWGS. FOR ADDITIONAL INFORMATION
D5	DEMOLISH EXISTING MIRROR.
D6	DEMOLISH ALL EXISTING COUNTERTOPS, CASEWORK AND APPLIANCES.
D7	EXISTING STAIRS AND RAILING TO REMAIN
D8	DEMOLISH EXISTING INTERIOR GLAZING SYSTEM.
D9	DEMOLISH GWB CEILINGS, EXTERIOR SOFFIT CEILINGS, ACOUSTICAL CEILINGS TILES, GRIDS, ALL ASSOCIATED HANGERS AND SUPPORT. REFER TO ELECTRICAL DWGS. FOR MORE INFORMATION.
D10	REMOVE EXISTING LIGHT FIXTURES, GRILLS AND DIFFUSERS. REFER TO MECHANICAL DWGS. FOR MORE INFORMATION.
D11	EXISTING ELEVATOR TO REMAIN.
D12	REFER TO MEP DEMO PLANS FOR SPECIFIC REQUIREMENTS FOR MECHANICAL AND ELECTRICAL ROOMS
D13	DEMOLISH EXISTING ELEVATOR CAB & FINISHES.
D14	DEMOLISH ALL EXISTING DISPLAY PANELS, TYP.
D15	DEMOLISH EXISTING WALLS, TYP.
D16	DEMOLISH EXISTING WIRE SCREEN AND DOOR.
D17	DEMOLISH EXISTING PLASTER COLUMN WRAP AND FURRING CHANNELS DOWN TO ITS STRUCTURE.
D18	EXISTING CONCRETE COLUMN ENCLOSURE TO REMAIN.
D19	REMOVE ALL DRYWALL ALONG EXISTING EXTERIOR WALL; TYP.



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Phone: 610.834.7600
Facsimile: 610.834.7615
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1001 POWELL ST. NORRISTOWN, PA 19401

CONSTRUCTION ISSUE DATE: Mark Date	DRAWN BY: STP	CHECKED BY: LG	SCALE: AS NOTED

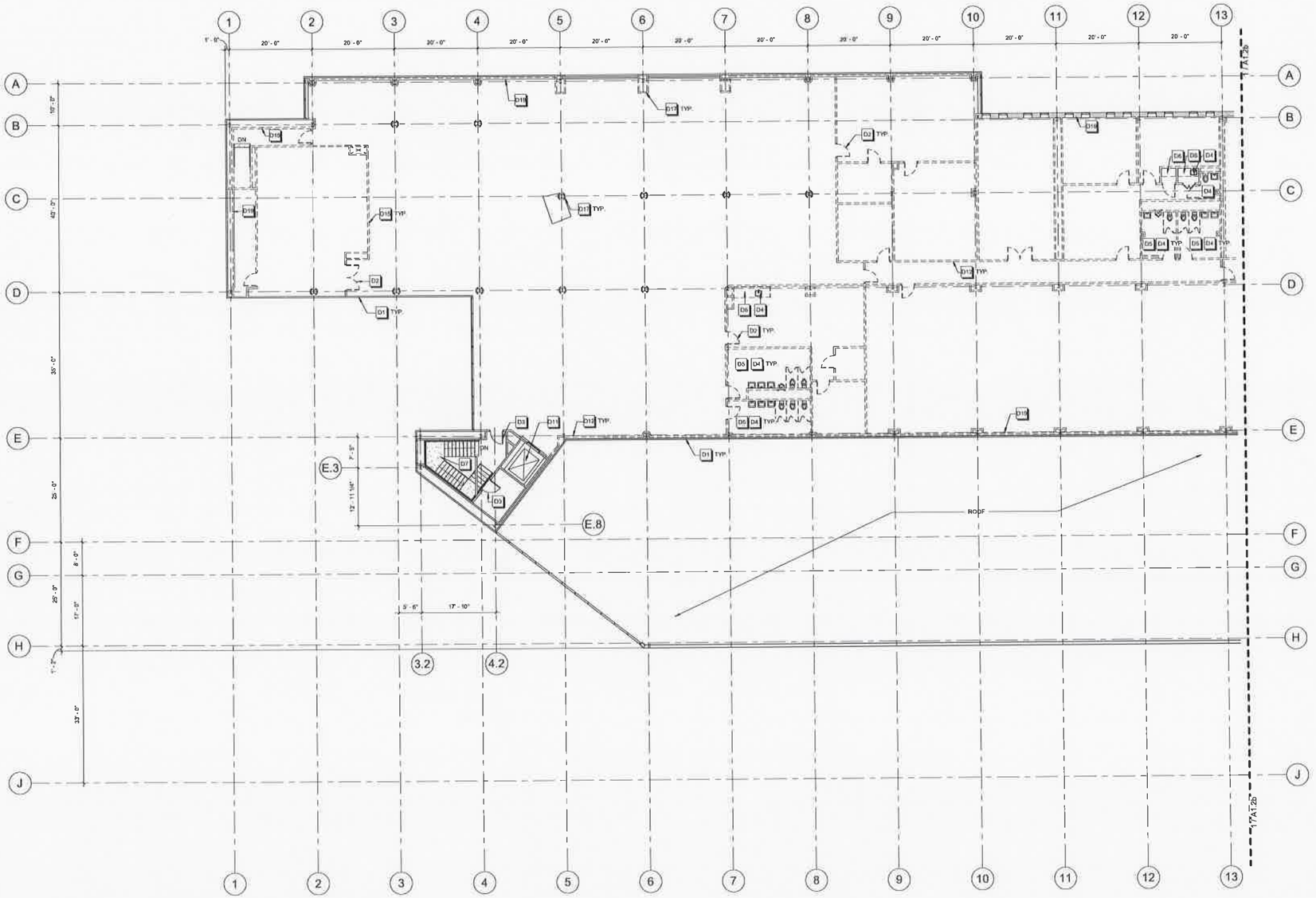
1ST FLOOR DEMO PLAN AREA B

NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

A1.1b

7/17/2024 10:07:48 AM

NOT FOR CONSTRUCTION



1 2ND FLOOR - DEMOLITION PLAN - AREA A
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL HOLD A PRE-DEMOLITION/ INSTALLATION MEETING W/ THE OWNER & ARCHITECT WHICH OUTLINES STRATEGY FOR KEEPING AREA OUTSIDE & ADJACENT TO THE PROJECT AREA OPEN TO THE PUBLIC, SAFE & OPERATIONAL DURING ENTIRE PROJECT TIMELINE, INCLUDING THE TIME UNTIL THE PROJECT BEGINS.
2. ALL DIMENSIONS, ELEVATIONS AND PHYSICAL CONDITIONS SHOWN ON THE DRAWINGS FOR EXISTING STRUCTURES ARE BASED ON LIMITED FIELD INSPECTIONS AND OTHER AVAILABLE SOURCES. SUCH DEPICTIONS OF EXISTING CONSTRUCTION ARE INTENDED TO BE GENERAL, APPROXIMATE AND LIMITED TO THOSE AREAS FOR WHICH WORK IS REQUIRED, AND ARE PROVIDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. PRIOR TO BIDDING, CONDUCT A CAREFUL EXAMINATION OF EXISTING CONDITIONS AT THE SITE APPLICABLE TO THE WORK.
3. PERFORM DEMOLITION WORK IN ACCORDANCE WITH APPLICABLE AUTHORITIES HAVING JURISDICTION.
4. BURNING OF THE MATERIALS ON SITE IS NOT PERMITTED.
5. DUST CONTROL: CONTRACTOR SHALL MONITOR AND MAINTAIN DUST CONTROL THROUGHOUT THE ENTIRE DEMOLITION PROCESS SO THAT DEMOLITION ACTIVITY CAUSES NO DUST CONDITIONS OUTSIDE THE WORK AREA PREMISES.
6. EXCEPT WHERE OTHERWISE NOTED, IMMEDIATELY (AND PROPERLY) REMOVE DEBRIS FROM THE PROJECT SITE.
7. CONTRACTOR SHALL CAP UTILITY SERVICES WITHIN AREAS OF DEMOLITION WHICH ARE SHOWN AS BEING REUSED UNLESS NOTED OTHERWISE. NOTIFY THE AFFECTED UTILITY COMPANY AND OWNER IN ADVANCE AND OBTAIN THEIR APPROVAL.
8. CONTRACTOR SHALL REFER TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
9. EXISTING ABANDONED SANITARY LINES MAY BE CAPPED AND LEFT IN PLACE. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. CONTRACTOR SHALL PREVENT MOVEMENT OF STRUCTURE. PROVIDE AND PLACE BRACING AND SUPPORTS OR SHORING AND BE RESPONSIBLE FOR SAFETY AND SUPPORT OF STRUCTURE. CONTRACTOR SHALL ASSUME LIABILITY FOR SUCH MOVEMENT, SETTLEMENT, DAMAGE, OR INJURY. CONTRACTOR SHALL CEASE OPERATION AND NOTIFY THE OWNER IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS ENDANGERED. CONTRACTOR TO TAKE PRECAUTIONS UNTIL SAFETY IS RESTORED.
11. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO MINIMIZE DAMAGE TO AREAS NOT SCHEDULED FOR DEMOLITION. ANY DAMAGE AS A RESULT OF DEMOLITION SHALL BE IMMEDIATELY REPAIRED.

DEMOLITION LEGEND

- EXISTING EXTERIOR WALL TO REMAIN
- EXISTING WALL TO BE REMOVED
- EXISTING DOOR / FRAME TO BE REMOVED UNLESS NOTED OTHERWISE. FRAME CAN REMAIN IF ENCAPSULATED WITHIN NEW WALL CONSTRUCTION
- EXISTING WINDOW TO BE REMOVED

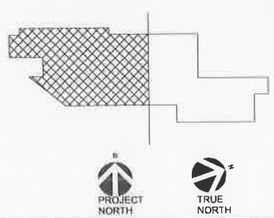
ASBESTOS NOTE

*NOTE: ASBESTOS CONTAINING MATERIALS MAY BE PRESENT WITHIN WORK AREA AND IF DISCOVERED, SHALL BE REMOVED BY GENERAL CONTRACTOR AS PART OF THE BASE BID SCOPE OF WORK UTILIZING PROPER PROCEDURES AS REQUIRED BY LAW. REFER TO UPCOMING ENVIRONMENTAL SURVEY REPORT THAT WILL BE ISSUED BY THE OWNER TO DETERMINE EXTENT OF ANY ASBESTOS CONTAINING MATERIALS AND POTENTIAL ABATEMENT REQUIREMENTS.

REFER TO MECHANICAL, ELECTRICAL & PLUMBING NOTES FOR DEMOLITION SCOPE OF WORK REFER TO MEP DWGS FOR MORE INFORMATION.

KEYNOTE LEGEND - DEMOLITION PLAN

KEY VALUE	KEYNOTE TEXT
D1	EXISTING CONSTRUCTION TO REMAIN, TYP. (SHOWN IN SHADED GRAY WALLS)
D2	DEMOLISH EXISTING DOORS AND FRAMES.
D3	EXISTING WINDOWS, DOOR AND FRAMES TO REMAIN.
D4	DEMOLISH ALL PLUMBING FIXTURES (TOILETS, URINALS, LAVATORIES, SINKS, DRINKING FOUNTAINS, MOP SINKS, PARTITIONS & TOILET ACCESSORIES) REFER TO PLUMBING DWGS. FOR ADDITIONAL INFORMATION
D5	DEMOLISH EXISTING MIRROR.
D6	DEMOLISH ALL EXISTING COUNTERTOPS, CASEWORK AND APPLIANCES.
D7	EXISTING STAIRS AND RAILING TO REMAIN.
D8	DEMOLISH EXISTING INTERIOR GLAZING SYSTEM.
D9	DEMOLISH GWB CEILINGS, EXTERIOR SOFFIT CEILINGS, ACOUSTICAL CEILINGS TILES, GRIDS, ALL ASSOCIATED HANGERS AND SUPPORT. REFER TO ELECTRICAL DWGS. FOR MORE INFORMATION.
D10	REMOVE EXISTING LIGHT FIXTURES, GRILLS AND DIFFUSERS. REFER TO MECHANICAL DWGS. FOR MORE INFORMATION.
D11	EXISTING ELEVATOR TO REMAIN.
D12	REFER TO MEP DEMO PLANS FOR SPECIFIC REQUIREMENTS FOR MECHANICAL AND ELECTRICAL ROOMS.
D13	DEMOLISH EXISTING ELEVATOR CAB & FINISHES.
D14	DEMOLISH ALL EXISTING DISPLAY PANELS, TYP.
D15	DEMOLISH EXISTING WALLS, TYP.
D16	DEMOLISH EXISTING WIRE SCREEN AND DOOR.
D17	DEMOLISH EXISTING PLASTER COLUMN WRAP AND FURRING CHANNELS DOWN TO ITS STRUCTURE.
D18	EXISTING CONCRETE COLUMN ENCLOSURE TO REMAIN.
D19	REMOVE ALL DRYWALL ALONG EXISTING EXTERIOR WALL, TYP.



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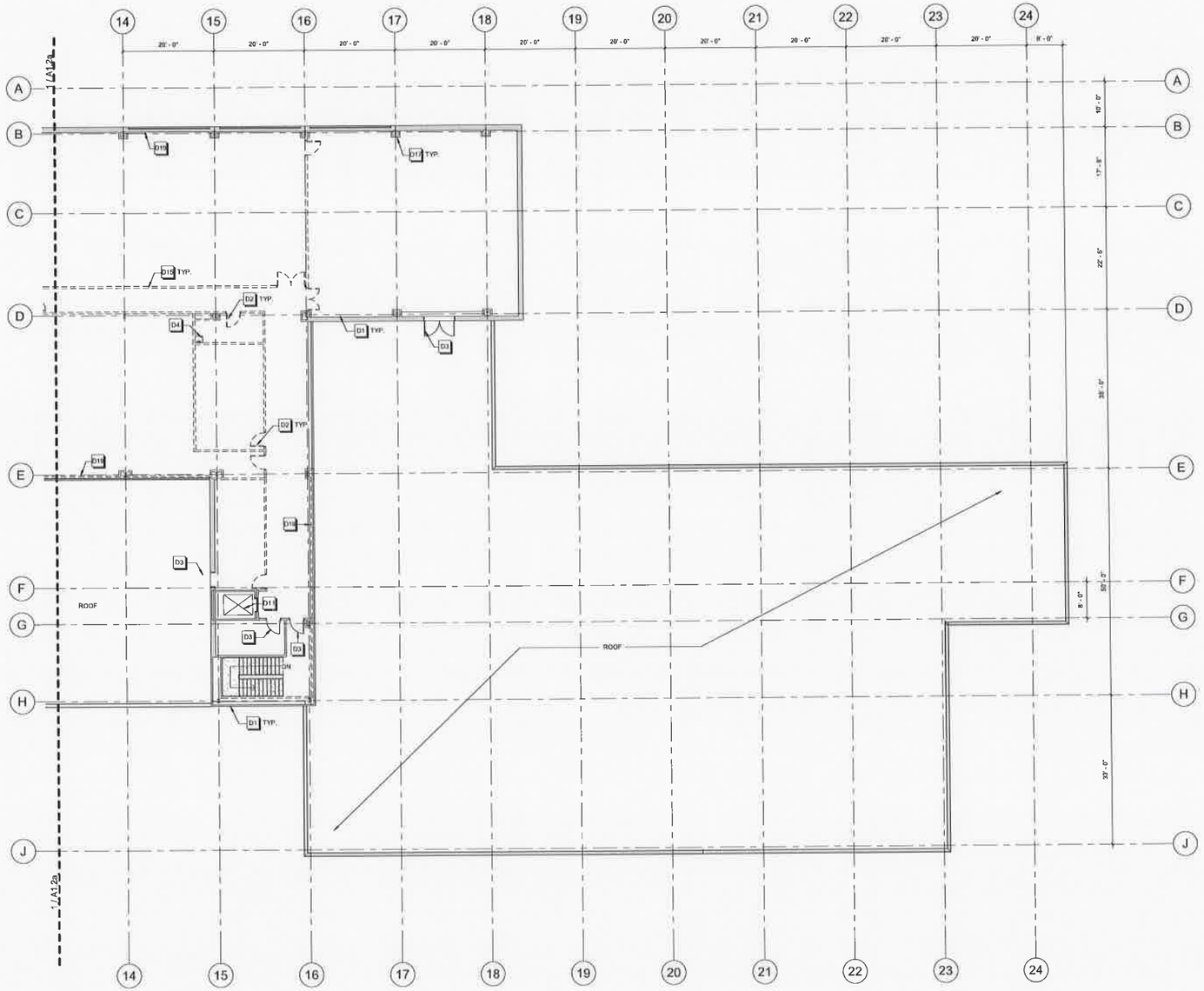
2ND FLOOR DEMO PLAN AREA A

NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

A1.2a

7/12/2024 10:07:59 AM

NOT FOR CONSTRUCTION



1 2ND FLOOR - DEMOLITION PLAN - AREA B
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL HOLD A PRE-DEMOLITION/ INSTALLATION MEETING W/ THE OWNER & ARCHITECT WHICH OUTLINES STRATEGY FOR KEEPING AREA OUTSIDE & ADJACENT TO THE PROJECT AREA OPEN TO THE PUBLIC, SAFE & OPERATIONAL DURING ENTIRE PROJECT TIMELINE, INCLUDING THE TIME UNTIL THE PROJECT BEGINS.
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- EXISTING WINDOW TO BE REMOVED

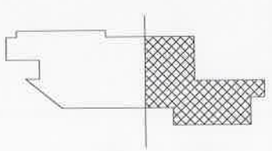
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KEYNOTE LEGEND - DEMOLITION PLAN

KEY VALUE	KEYNOTE TEXT
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D2	DEMOLISH EXISTING DOORS AND FRAMES.
D3	EXISTING WINDOWS, DOOR AND FRAMES TO REMAIN.
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D19	REMOVE ALL DRYWALL ALONG EXISTING EXTERIOR WALL, TYP.



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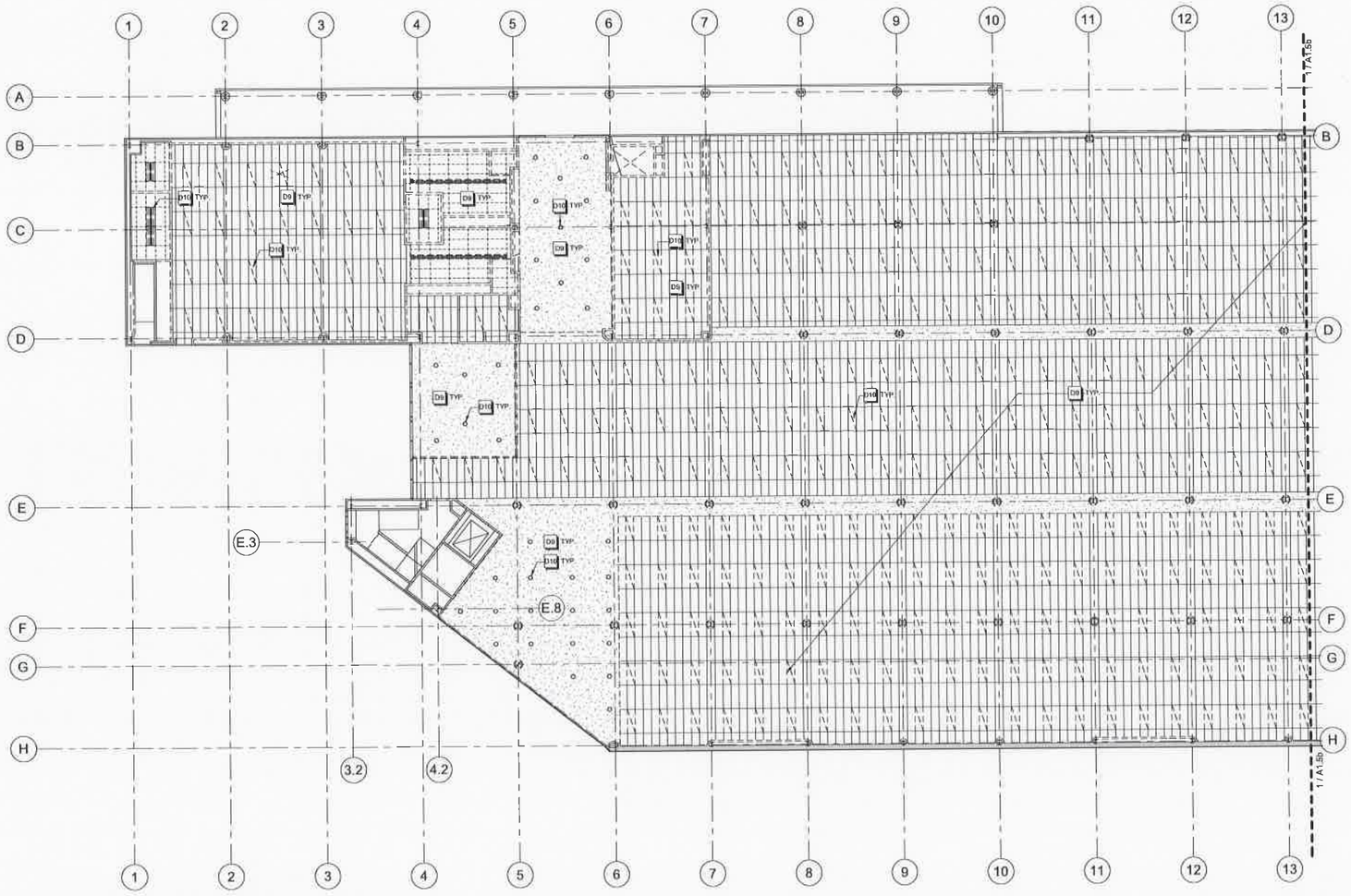
2ND FLOOR DEMO PLAN AREA B

NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/09/24

A1.2b

7/12/2024 10:07:51 AM

NOT FOR CONSTRUCTION



1 1ST FLOOR - DEMOLITION REFLECTIVE CEILING PLAN - AREA A
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL HOLD A PRE-DEMOLITION/ INSTALLATION MEETING W/ THE OWNER & ARCHITECT WHICH OUTLINES STRATEGY FOR KEEPING AREA OUTSIDE & ADJACENT TO THE PROJECT AREA OPEN TO THE PUBLIC, SAFE & OPERATIONAL DURING ENTIRE PROJECT TIMELINE, INCLUDING THE TIME UNTIL THE PROJECT BEGINS.
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DEMOLITION LEGEND

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- EXISTING WINDOW TO BE REMOVED

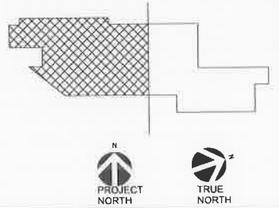
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KEYNOTE LEGEND - DEMOLITION PLAN

KEY VALUE	KEYNOTE TEXT
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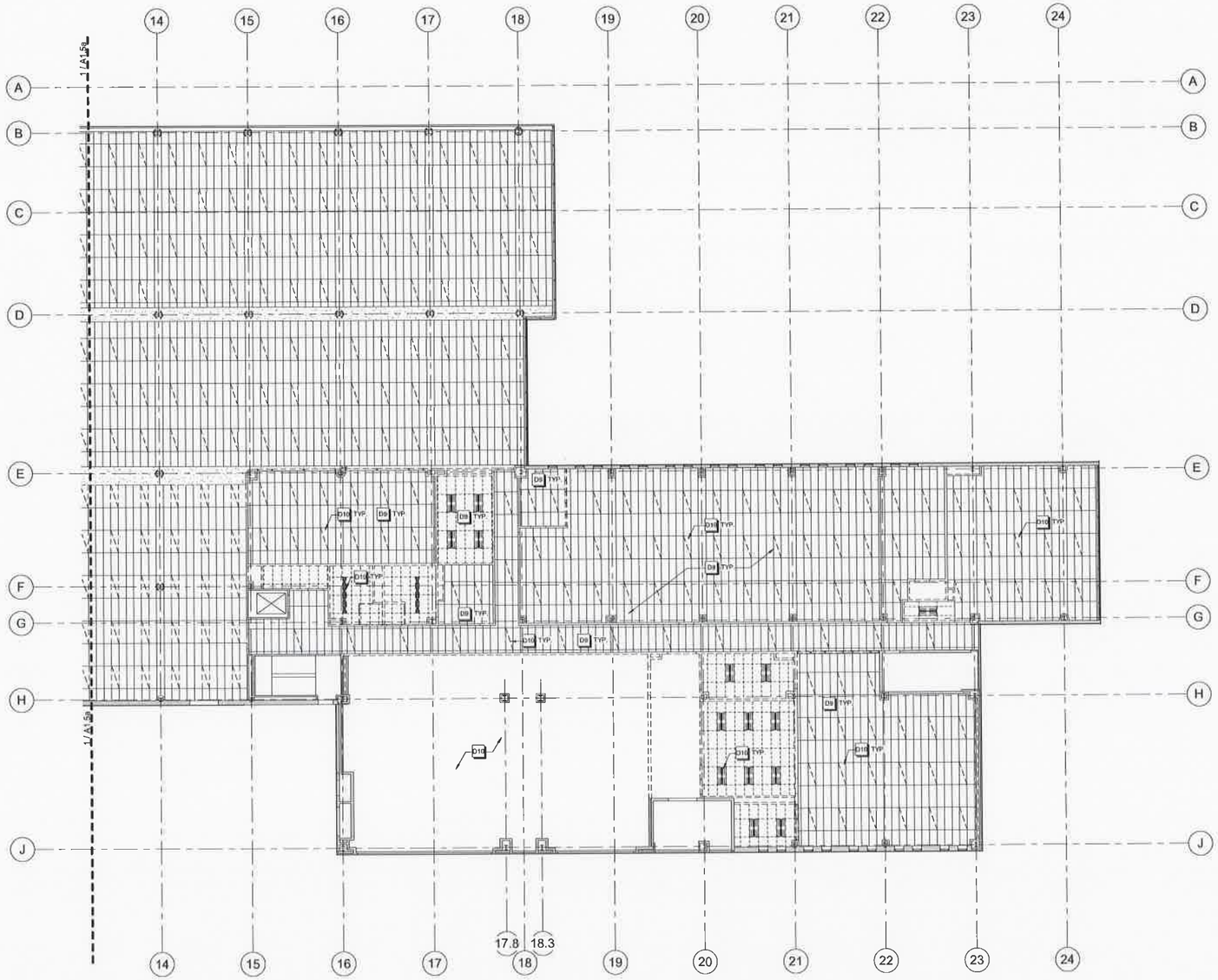
1ST FLOOR DEMO RCP - AREA A

NO	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

A1.5a

7/12/2024 10:07:53 AM

NOT FOR CONSTRUCTION



1 1ST FLOOR - DEMOLITION REFLECTIVE CEILING PLAN - AREA B
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL HOLD A PRE-DEMOLITION/ INSTALLATION MEETING W/ THE OWNER & ARCHITECT WHICH OUTLINES STRATEGY FOR KEEPING AREA OUTSIDE & ADJACENT TO THE PROJECT AREA OPEN TO THE PUBLIC, SAFE & OPERATIONAL DURING ENTIRE PROJECT TIMELINE, INCLUDING THE TIME UNTIL THE PROJECT BEGINS.
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- EXISTING WINDOW TO BE REMOVED

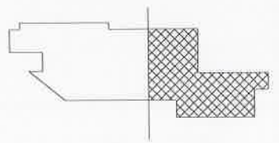
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D8	DEMOLISH EXISTING INTERIOR GLAZING SYSTEM.
D9	DEMOLISH GWB CEILINGS, EXTERIOR SOFFIT CEILINGS, ACOUSTICAL CEILINGS TILES, GRIDS, ALL ASSOCIATED HANGERS AND SUPPORT. REFER TO ELECTRICAL DWGS. FOR MORE INFORMATION.
D10	REMOVE EXISTING LIGHT FIXTURES, GRILLS AND DIFFUSERS. REFER TO MECHANICAL DWGS. FOR MORE INFORMATION.
D11	EXISTING ELEVATOR TO REMAIN.
D12	REFER TO MEP DEMO PLANS FOR SPECIFIC REQUIREMENTS FOR MECHANICAL AND ELECTRICAL ROOMS.
D13	DEMOLISH EXISTING ELEVATOR CAB & FINISHES.
D14	DEMOLISH ALL EXISTING DISPLAY PANELS, TYP.
D15	DEMOLISH EXISTING WALLS, TYP.
D16	DEMOLISH EXISTING WIRE SCREEN AND DOOR.
D17	DEMOLISH EXISTING PLASTER COLUMN WRAP AND FURRING CHANNELS DOWN TO ITS STRUCTURE.
D18	EXISTING CONCRETE COLUMN ENCLOSURE TO REMAIN
D19	REMOVE ALL DRYWALL ALONG EXISTING EXTERIOR WALL, TYP.



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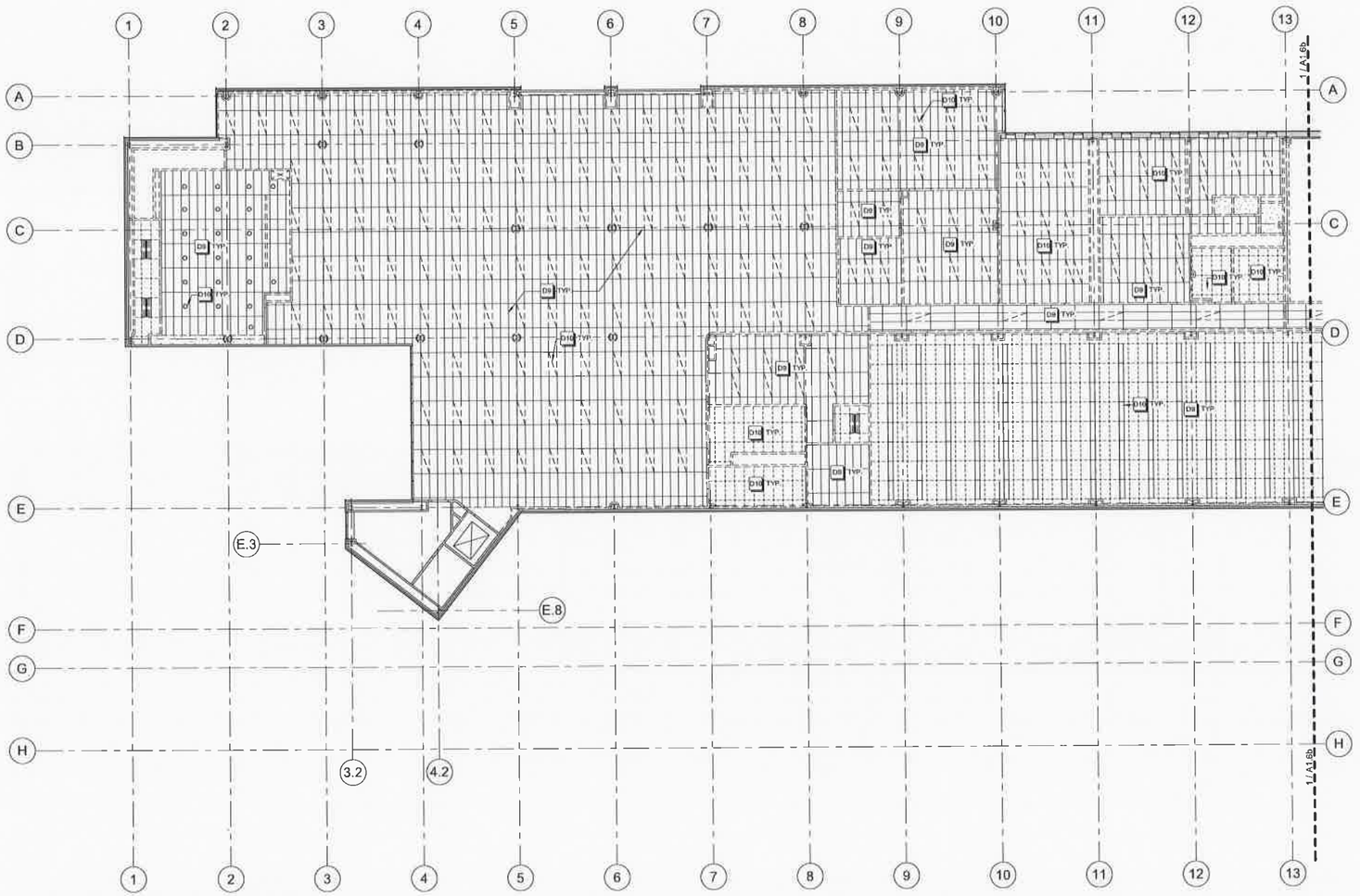
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1ST FLOOR DEMO RCP - AREA B

NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

A1.5b

7/1/2024 10:07:53 AM



1 2ND FLOOR - DEMOLITION REFLECTIVE CEILING PLAN - AREA A
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

1. CONTRACTOR SHALL HOLD A PRE-DEMOLITION/ INSTALLATION MEETING W/ THE OWNER & ARCHITECT WHICH OUTLINES STRATEGY FOR KEEPING AREA OUTSIDE & ADJACENT TO THE PROJECT AREA OPEN TO THE PUBLIC, SAFE & OPERATIONAL DURING ENTIRE PROJECT TIMELINE, INCLUDING THE TIME UNTIL THE PROJECT BEGINS.
2. ALL DIMENSIONS, ELEVATIONS AND PHYSICAL CONDITIONS SHOWN ON THE DRAWINGS FOR EXISTING STRUCTURES ARE BASED ON LIMITED FIELD INSPECTIONS AND OTHER AVAILABLE SOURCES. SUCH DEPICTIONS OF EXISTING CONSTRUCTION ARE INTENDED TO BE GENERAL, APPROXIMATE AND LIMITED TO THOSE AREAS FOR WHICH WORK IS REQUIRED, AND ARE PROVIDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. PRIOR TO BIDDING, CONDUCT A CAREFUL EXAMINATION OF EXISTING CONDITIONS AT THE SITE APPLICABLE TO THE WORK.
3. PERFORM DEMOLITION WORK IN ACCORDANCE WITH APPLICABLE AUTHORITIES HAVING JURISDICTION.
4. BURNING OF THE MATERIALS ON SITE IS NOT PERMITTED.
5. DUST CONTROL: CONTRACTOR SHALL MONITOR AND MAINTAIN DUST CONTROL THROUGHOUT THE ENTIRE DEMOLITION PROCESS SO THAT DEMOLITION ACTIVITY CAUSES NO DUST CONDITIONS OUTSIDE THE WORK AREA PREMISES.
6. EXCEPT WHERE OTHERWISE NOTED, IMMEDIATELY (AND PROPERLY) REMOVE DEBRIS FROM THE PROJECT SITE.
7. CONTRACTOR SHALL CAP UTILITY SERVICES WITHIN AREAS OF DEMOLITION WHICH ARE SHOWN AS BEING REUSED UNLESS NOTED OTHERWISE. NOTIFY THE AFFECTED UTILITY COMPANY AND OWNER IN ADVANCE AND OBTAIN THEIR APPROVAL.
8. CONTRACTOR SHALL REFER TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
9. EXISTING ABANDONED SANITARY LINES MAY BE CAPPED AND LEFT IN PLACE. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
10. CONTRACTOR SHALL PREVENT MOVEMENT OF STRUCTURE. PROVIDE AND PLACE BRACING AND SUPPORTS OR SHORING AND BE RESPONSIBLE FOR SAFETY AND SUPPORT OF STRUCTURE. CONTRACTOR SHALL ASSUME LIABILITY FOR SUCH MOVEMENT, SETTLEMENT, DAMAGE, OR INJURY. CONTRACTOR SHALL CEASE OPERATION AND NOTIFY THE OWNER IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS ENDANGERED. CONTRACTOR TO TAKE PRECAUTIONS UNTIL SAFETY IS RESTORED.
11. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO MINIMIZE DAMAGE TO AREAS NOT SCHEDULED FOR DEMOLITION. ANY DAMAGE AS A RESULT OF DEMOLITION SHALL BE IMMEDIATELY REPAIRED.

DEMOLITION LEGEND

- EXISTING EXTERIOR WALL TO REMAIN
- EXISTING WALL TO BE REMOVED
- EXISTING DOOR / FRAME TO BE REMOVED UNLESS NOTED OTHERWISE. FRAME CAN REMAIN IF ENCAPSULATED WITHIN NEW WALL CONSTRUCTION
- EXISTING WINDOW TO BE REMOVED

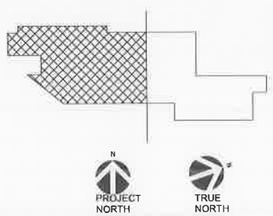
ASBESTOS NOTE

*NOTE: ASBESTOS CONTAINING MATERIALS MAY BE PRESENT WITHIN WORK AREA AND IF DISCOVERED, SHALL BE REMOVED BY GENERAL CONTRACTOR AS PART OF THE BASE BID SCOPE OF WORK UTILIZING PROPER PROCEDURES AS REQUIRED BY LAW. REFER TO UPCOMING ENVIRONMENTAL SURVEY REPORT THAT WILL BE ISSUED BY THE OWNER TO DETERMINE EXTENT OF ANY ASBESTOS CONTAINING MATERIALS AND POTENTIAL ABATEMENT REQUIREMENTS.

REFER TO MECHANICAL, ELECTRICAL & PLUMBING NOTES FOR DEMOLITION SCOPE OF WORK. REFER TO MEP DWGS FOR MORE INFORMATION.

KEYNOTE LEGEND - DEMOLITION PLAN

KEY VALUE	KEYNOTE TEXT
D1	EXISTING CONSTRUCTION TO REMAIN, TYP. (SHOWN IN SHADED GRAY WALLS)
D2	DEMOLISH EXISTING DOORS AND FRAMES.
D3	EXISTING WINDOWS, DOOR AND FRAMES TO REMAIN.
D4	DEMOLISH ALL PLUMBING FIXTURES (TOILETS, URINALS, LAVATORIES, SINKS, DRINKING FOUNTAINS, MOP SINKS, PARTITIONS & TOILET ACCESSORIES) REFER TO PLUMBING DWGS. FOR ADDITIONAL INFORMATION.
D5	DEMOLISH EXISTING MIRROR.
D6	DEMOLISH ALL EXISTING COUNTERTOPS, CASEWORK AND APPLIANCES.
D7	EXISTING STAIRS AND RAILING TO REMAIN
D8	DEMOLISH EXISTING INTERIOR GLAZING SYSTEM.
D9	DEMOLISH DWS CEILINGS, EXTERIOR SOFFIT CEILINGS, ACOUSTICAL CEILINGS TILES, GRIDS, ALL ASSOCIATED HANGERS AND SUPPORT. REFER TO ELECTRICAL DWGS. FOR MORE INFORMATION.
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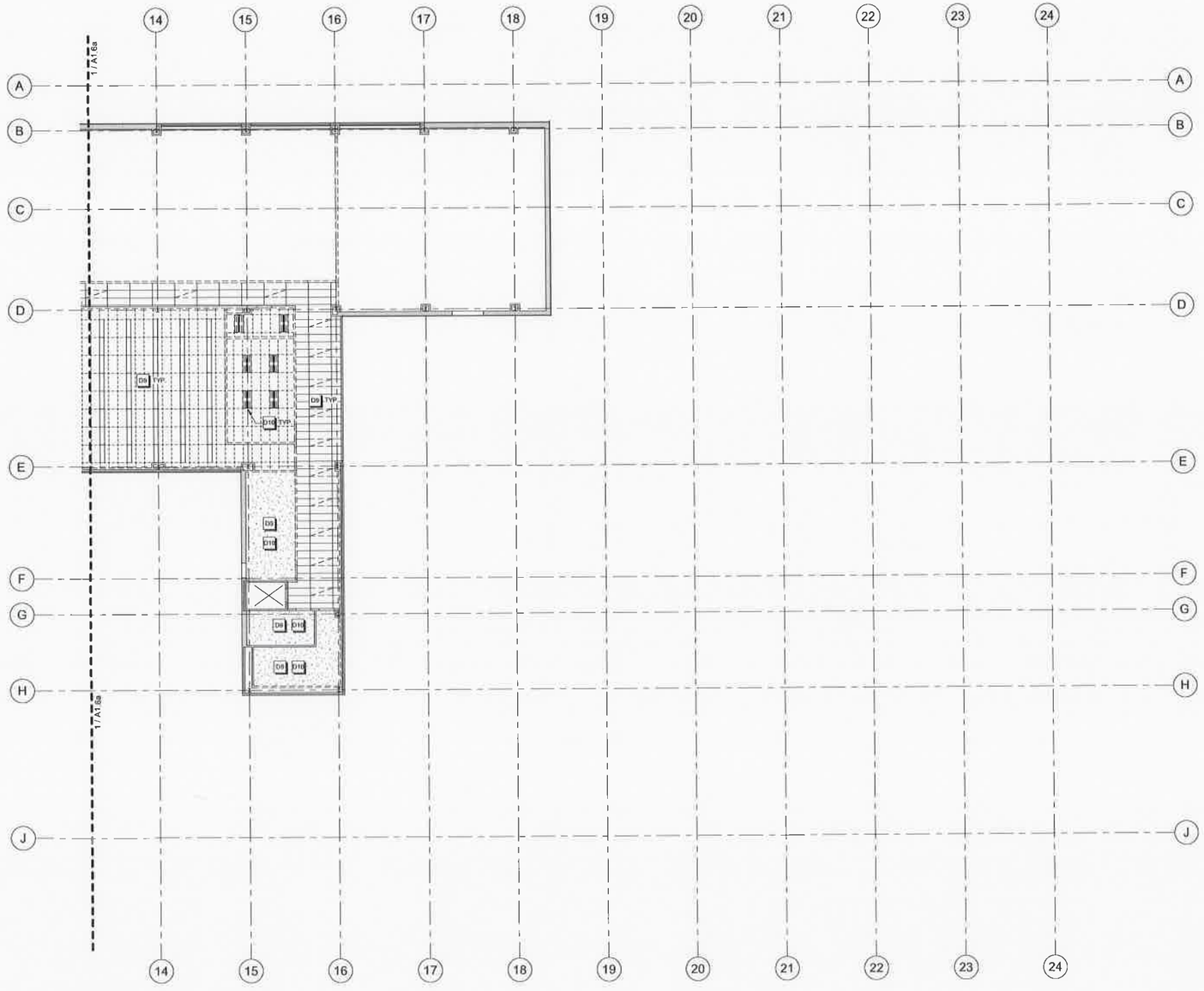
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2ND FLOOR DEMO RCP - AREA A

NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

A1.6a

NOT FOR CONSTRUCTION



1 2ND FLOOR - DEMOLITION REFLECTIVE CEILING PLAN - AREA B
3/32" = 1'-0"

GENERAL DEMOLITION NOTES

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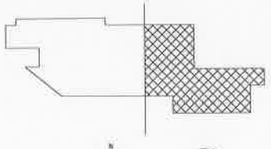
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2ND FLOOR DEMO RCP - AREA B

NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

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7/17/2024 10:07:16 AM

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMP	AMPERE
APPROX	APPROXIMATE
AVG	AVERAGE
B.O.P	BOTTOM OF PIPE
BFP	BACKFLOW PREVENTION DEVICE
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
CA	COMPRESSED AIR
C TO C	CENTER TO CENTER
C/D	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CO_2	CARBON DIOXIDE
COND	CONDENSATE
CR	CONDENSER RETURN
CS	CONDENSER SUPPLY
CONT	CONTINUED
CPVC	CHLORINATED POLYVINYL CHLORIDE
CW	COLD WATER (DOMESTIC)
DB	DRY BULB
DEG	DEGREE
DIAM	DIAMETER
DN	DOWN
DTTV	DOUBLE THICK TURNING VANES
DWG	DRAWING
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
(ED)	EXISTING TO BE DEMOLISHED
(ETR)	EXISTING TO BE RELOCATED
EL	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EVAP	EVAPORATOR
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERIOR
°F	DEGREE FAHRENHEIT
FD	FLOOR DRAIN
FIN	FINISH
FF	FINISHED FLOOR
FLR	FLOOR
FO	FUEL OIL
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FEET
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS OF MOISTURE
GRD	GROUND
GWH	GAS WATER HEATER
H	ENTHALPY
HC	HANDICAP
HD	HEAD
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HTR	HEATER
HVAC	HEATING VENTILATION AIR CONDITIONING
HW	HOT WATER (DOMESTIC)
HZ	FREQUENCY, ELECTRICAL
ID	INSIDE DIAMETER
ID	INDIRECT DRAIN
IE	INVERT ELEVATION
IW	INDIRECT WASTE
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAR FEET
LL	LOW LEVEL
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MOD	MOTOR OPERATED DAMPER
MPCR	MEDIUM PRESSURE CONDENSATE RETURN
(N)	NEW
NA	NOT APPLICABLE
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OED	OPEN END DUCT
PG	PRESSURE GAUGE
PH	PHASE-ELECTRICAL
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
QT	QUART
RA	RETURN AIR
RD	ROOF DRAIN
REQ	REQUIRED
RG	RETURN AIR GRILLE
RH	RELATIVE HUMIDITY
(RL)	RELOCATED
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN AIR REGISTER
RWC	RAIN WATER CONDUCTOR
RPZ	REDUCED PRESSURE ZONE BFP
SA	SUPPLY AIR
SAN	SANITARY WASTE
SCH	SCHEDULE
SD	SUPPLY AIR DIFFUSER
SF	SQUARE FEET
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SR	SUPPLY AIR REGISTER
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STR	STRAINER
STRUC	STRUCTURAL
SUCT	SUCTION
T&P	TEMPERATURE & PRESSURE RELIEF VALVE
TEMP	TEMPERATURE
THERM	THERMOMETER
T.O.P	TOP OF PIPE
TP	TRAP PRIMER
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
UTIL	UTILITY
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VTR	VENT THROUGH ROOF
W/	WITH
WB	WET BULB TEMPERATURE
WH	WALL HYDRANT
WP	WEATHERPROOF
W/O	WITHOUT

MECHANICAL GENERAL NOTES

1. ALL WORK IS TO BE IN COMPLIANCE WITH THE 2018 INTERNATIONAL MECHANICAL CODE OR LOCAL CODE HAVING JURISDICTION. NOT ALL CODE REQUIREMENTS HAVE BEEN DESCRIBED IN THIS SPECIFICATION OR INDICATED ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE CODES AND INSTALL THE WORK IN ACCORDANCE WITH CODES.
2. OBTAIN AND PAY FOR BUILDING PERMITS, INSPECTIONS, CONNECTION CHARGES, AND FEES.
3. THE CONTRACTOR IS TO SURVEY AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMISSION AND BECOME AWARE OF ALL CONDITIONS WHICH MAY IMPACT THE REQUIRED WORK. CONTRACTOR IS TO INCLUDE ALL ASSOCIATED COSTS (MATERIALS/ LABOR) DETERMINED TO BE REQUIRED DURING SITE INSPECTIONS. CONTRACTOR'S BID SUBMISSION IS TO BE CONSIDERED PROOF THAT THIS REQUIREMENT HAS BEEN MET.
4. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE TAKEN AS A WHOLE. IF A CONFLICT OR CONTRADICTION EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT WILL APPLY. THE ARCHITECT'S AND ENGINEER'S INTERPRETATION OF THE DOCUMENTS ARE TO BE BINDING UPON THE CONTRACTOR.
5. ALL WORK IS TO BE COORDINATED WITH, AND APPROVED BY THE OWNER PRIOR TO ANY SHUT-DOWNS. ALL REQUESTS ARE TO BE SUBMITTED, IN WRITING, TO THE OWNER 24, TO 48 HOURS PRIOR TO REQUESTED DELETIONS.
6. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR PRIOR TO PURCHASING EQUIPMENT. VERIFY ALL VOLTAGE AND AMPERE REQUIREMENTS FOR FEEDERS, AND MOCP DEVICES.
7. ALL EXTERIOR WALL/ ROOF PENETRATIONS ARE TO BE SEALED, AIR, AND WATER-TIGHT. ALL PIPING PASSING THROUGH WALL, OR FLOOR PENETRATIONS IS TO HAVE SLEEVES. ALL WALL, OR FLOOR-RATED PENETRATIONS ARE TO BE SEALED WITH FIRE-RATED SEALANT FORMED IN PLACE (BY 3M OR HILTI).
8. PROVIDE ALL ACCESS DOORS FOR ALL VALVES, DAMPERS, DEVICES, CONTROLLERS, ETC. WHICH MAY REQUIRE SERVICE. ALL ACCESS PANELS ARE BE 16 GAUGE STEEL FRAME, 20 GAUGE HINGED DOOR, LOCKABLE, AND FIRE-RATED (WHEN INSTALLED IN RATED WALLS, FLOORS, "B" LABEL, 1-1/2 HOURS). FINISH AS SELECTED BY THE ARCHITECT.
9. SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO BE REVIEWED BY THE ENGINEER PRIOR TO ORDERING. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR, AND PHYSICAL DIMENSIONS PRIOR TO SHOP DRAWING SUBMISSION.
10. SUBMIT SHOP DRAWINGS OF ALL SHEET METAL FOR REVIEW. DRAWINGS ARE TO BE NOT LESS THAN 1/4"=1'-0" SCALE AND ARE TO INDICATE ALL STEEL PIPING, CONDUIT WIRING METHODS, LIGHTING FIXTURES, SPRINKLER, EQUIPMENT, AND ARCHITECTURAL FEATURES. DUCTWORK IS TO BE INDICATED DOUBLE-LINE, INDICATE DETAIL OF FIRE DAMPER. SHEET METAL SHOP DRAWING WILL BE UTILIZED FOR CONTRACTOR'S COORDINATION DRAWINGS AND IS TO BE SUBMITTED FOR REVIEW, AND APPROVAL PRIOR TO INSTALLATION. IF SHEET METAL SHOP DRAWINGS ARE NOT SUBMITTED, OR IF THE CONTRACTOR INSTALLS THE DUCTWORK WITHOUT PRIOR APPROVALS, THE CONTRACTOR IS TO ASSUME ALL RESPONSIBILITIES AND FIELD COORDINATION, AND PAY ALL ASSOCIATED COSTS ASSOCIATED WITH DUCTWORK INSTALLATION DEFICIENCIES, AND FIELD COORDINATION ISSUES.
11. ALL DUCTWORK IS TO COMPLY WITH NFPA PAMPHLET 90 A. ALL DUCTWORK SEAMS ARE TO BE SEALED WITH DUCT SEALANT. ALL NEW DUCTWORK SECTIONS AND FITTINGS TO BE INSTALLED ON THE PROJECT ARE TO BE COVERED, AND SEALED FROM DUST, DIRT, DEBRIS.
12. PROVIDE THIRD PARTY TEST, BALANCE, AND ADJUST REPORT (FOR ALL AIR AND HYDRONIC SYSTEMS) AT THE COMPLETION OF THE WORK. BALANCE AIR QUANTITIES AND FLOW RATES TO VALUES AS INDICATED ON THE DRAWINGS. SET DAMPER AND VALVE POSITIONS. ALLOW FOR ONE SHEAVE CHANGE PER EACH (35%) OF THE HVAC SYSTEMS. PROVIDE ONE SPEED TAP ADJUSTMENT FOR DIRECT DRIVE SYSTEMS PER EACH (100%) OF THE HVAC SYSTEMS. PROVIDE TOTAL AND STATIC PRESSURE READINGS, TRAVERSE AT FAN INLETS, AND OUTLETS. READ PUMP PRESSURE, AMPERAGE, GPMS, RPMS AND IDENTIFY OPERATING POINT ON THE IMPELLER CURVE. T.A.B.A. CONTRACTOR IS TO BE INDEPENDENT, AND AABC/ NEBB CERTIFIED.
13. ALL WORK IS TO BE CONCEALED, UNLESS OTHERWISE INDICATED.
14. NO PVC PIPING IS PERMITTED IN RETURN AIR PLENUMS.
15. ALL THREE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AND IS TO BE MAGNETIC, ACROSS-THE-LINE WITH AUXILIARY CONTACTS. ALL SINGLE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
16. PROVIDE CONDENSATE DRAIN TO ACCEPTABLE CODE APPROVED DISCHARGE POINT, 1-1/2" COPPER. ALL CONDENSATE PIPING IS TO HAVE 1/2" FIBERGLASS INSULATION WITH VAPOR BARRIER. PROVIDE CONDENSATE PUMP(S) WITH DISCHARGE CHECK VALVE(S) IF GRAVITY FLOW IS NOT OBTAINABLE. SUBMIT SHOP DRAWING FOR REVIEW AND APPROVAL AND COORDINATE ELECTRICAL WORK WITH THE ELECTRICAL CONTRACTOR.
17. PROVIDE FIRE DAMPERS IN ALL RATED WALL/ FLOOR/ SHAFT ASSEMBLIES WHERE INDICATED ON THE ARCHITECTURAL PLANS. FIRE DAMPERS ARE TO BE INSTALLED IN ACCORDANCE WITH THE UL LISTING FOR THE DAMPER AND AS DETAILED AS ON THE DRAWINGS, AND DETAILS. THE DAMPERS ARE TO BE SET IN A STEEL SLEEVE, AND ARE TO BE PROVIDED WITH BREAKAWAY CONNECTIONS. DAMPERS ARE TO BE 1-1/2 HOUR RATED. PROVIDE SMOKE DAMPERS IN ALL SMOKE RATED WALLS/ PARTITIONS PER THE ARCHITECTURAL PLANS. COORDINATE ALL LOCATIONS AND POWER REQUIREMENTS WITH ELECTRICAL, AND FIRE ALARM CONTRACTORS.
18. PROVIDE INSULATED PREFABRICATED ROOF CURB FOR ROOF-MOUNTED EQUIPMENT. DUCTWORK, AND PIPING AS MANUFACTURED BY THE ROOF-MOUNTED EQUIPMENT MANUFACTURER. ALL DUCT/ PIPING ROOF PENETRATIONS ARE TO HAVE ROOF CURBS. ALL ROOF CURBS ARE TO BE SECURED TO THE ROOF AND COORDINATED WITH THE OWNER'S ROOFING CONTRACTOR.
19. ALL FINISHES RELATED TO MECHANICAL EQUIPMENT, TERMINAL EQUIPMENT, AIR DEVICES, PERIMETER HEATERS, LOUVERS, ACCESS PANELS, EXPOSED WIREMOLD/ RACEWAYS, ETC. ARE TO BE COORDINATED AND SELECTED BY THE ARCHITECT/ OWNER/ ENGINEER PRIOR TO SHOP DRAWING SUBMISSION, ORDERING, AND INSTALLATION
20. FINAL LOCATIONS OF ALL THERMOSTATS, ACCESS PANELS, SPACE SENSORS, DETECTION DEVICES, ETC. IN FINISHED SPACES ARE TO BE COORDINATED AND APPROVED BY THE ARCHITECT/ OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
21. PROVIDE NEW MERV 11 FILTERS FOR ALL NEW AND EXISTING HVAC EQUIPMENT. CONTRACTOR IS TO PROVIDE ONE SPARE SET OF MERV 11 FILTERS FOR EACH HVAC SYSTEM, AND TURN OVER TO THE OWNER.
22. WATER SYSTEMS START-UP: FILL SYSTEM AND THOROUGHLY FLUSH ALL SEDIMENT, DIRT, PARTICLES, AND ANY OTHER MATERIAL FROM THE SYSTEM. REMOVE ALL AIR FROM THE SYSTEM. THIS WILL REQUIRE SEVERAL BLEEDING SEQUENCES. PROVIDE AIR VENTS AS REQUIRED. CLEAN ALL STRAINERS AFTER A THOROUGH FLUSHING. PROVIDE CHEMICAL TREATMENTS FOR THE FIRST YEAR OF OPERATION INCLUDING ALL NECESSARY TASKS, CHEMICALS, ADDITIVES, AND SERVICE VISITS
23. THE CONTRACTOR IS TO PROVIDE RADIANT CEILING DAMPERS IN ALL CEILING AIR DEVICES, (DIFFUSERS, GRILLES, REGISTERS, ETC.) AND RECESSED CEILING EXHAUST FANS LOCATED IN A FIRE-RATED CEILING ASSEMBLY. REFER TO ATTACHED DETAILS.
24. THE CONTRACTOR IS TO BE RESPONSIBLE FOR PROVIDING AUXILIARY DEHUMIDIFICATION UNITS IN EACH DWELLING UNIT AND THROUGHOUT THE BUILDING AFTER THE BUILDING IS ENCLOSED, DRYWALL, AND PAINTING IS FINISHED. THE DEHUMIDIFICATION UNITS ARE TO REMAIN IN OPERATION UNTIL UNIT TURN-OVER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DISCHARGE ALL CONDENSATE AND PROVIDE MEANS FOR POWER.
25. THE CONTRACTOR IS TO PROVIDE MANUFACTURER'S START-UP OF ALL EQUIPMENT, AND SYSTEMS.
26. PROPERLY INSTRUCT OWNER'S PERSONNEL IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. PROVIDE THREE INSTRUCTION AND MAINTENANCE MANUALS. SUBMIT MANUALS FOR REVIEW PRIOR TO OPERATING INSTRUCTION.
27. COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION
28. IF THE CONTRACTOR ELECTS TO SUBMIT ALTERNATE EQUIPMENT, MANUFACTURERS, SYSTEMS, METHODS, OR MATERIALS NOT SPECIALLY IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK WITH OTHER TRADES AND PAY FOR ANY ADDITIONAL COSTS ASSOCIATED WITH THE SUBSTITUTION OR CHANGE.
29. PROVIDE ONE SET OF ELECTRONIC AS BUILT DRAWINGS AT COMPLETION OF WORK. SUBMIT TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL

PROJECT DEDUCT/ADD ALTERNATES

REFER TO FLOOR PLANS

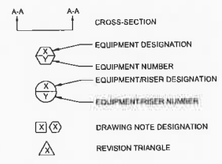
CONTRACTOR NOTES

DRAWING LIST

Drawing List- Mechanical

NUMBER	NAME	DEMO PACKAGE 07/03/24	Current Revision	Current Revision Date	Current Revisions
M-1	COVER SHEET- MECHANICAL	*			
MD-1a	FIRST FLOOR DEMOLITION PLAN AREA A- MECHANICAL	*			
MD-1b	FIRST FLOOR DEMOLITION PLAN AREA B- MECHANICAL	*			
MD-2a	SECOND FLOOR DEMOLITION PLAN AREA A- MECHANICAL	*			
MD-2b	SECOND FLOOR DEMOLITION PLAN AREA B- MECHANICAL	*			
MD-3a	ROOF DEMOLITION PLAN- AREA A- MECHANICAL	*			
MD-3b	ROOF DEMOLITION PLAN- AREA B- MECHANICAL	*			

DRAWING SYMBOLS LIST



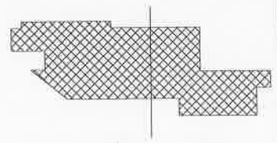
DESIGN NOTES

1. DESIGN CONDITIONS

SIZING, DESIGN AND PERFORMANCE OF THE HEATING AND COOLING SYSTEMS ARE BASED ON THE FOLLOWING DESIGN CHARACTERISTICS. MODIFICATION OF ANY OF THESE CHARACTERISTICS MAY ADVERSELY AFFECT THE HEATING AND COOLING PERFORMANCE AND LEVEL OF COMFORT TO THE BUILDING OCCUPANTS.

WEATHER STATION LOCATIONS - PHILADELPHIA, PA
HEATING DEGREE DAYS = 4589

OUTDOOR:
WINTER DRY BULB 14°F
SUMMER DRY BULB 93°F
SUMMER WET BULB 74°F
INDOOR:
WINTER DRY BULB 70°F
SUMMER DRY BULB 75°F



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COVER SHEET- MECHANICAL

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	DEMO PACKAGE	07/03/24

M-1

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MECHANICAL DEMOLITION:

1. CONTRACTOR SHALL BE FAMILIAR WITH ALL EXISTING CONDITIONS AND SHALL VISIT THE SITE PRIOR TO BIDDING. INCLUDES CHILLERS, BOILERS, PUMPS, DUCTWORK, PIPING, HEATING HOT WATER SPRING, ELECTRIC AND HOT WATER REHEAT COILS, CONTROLS, AIR ACCESSORIES, VARIABLE AIR TERMINALS, EXHAUST FANS, DIFFUSERS, GRILLES, REGISTERS, DEVICES AND WIRING.
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO FULLY UNDERSTAND THE SCOPE OF THE DEMOLITION WORK.
3. ALL DEMOLISHED MATERIALS SHALL BE RECYCLED WHERE POSSIBLE. ANY KNOWN HAZARDOUS MATERIALS SHALL BE HANDLED PROPERLY AND DISPOSED OF IN A SAFE MANNER.
4. CONTRACTOR SHALL DEMOLISH EXISTING EQUIPMENT AS SHOWN ON THE DRAWING. CONTRACTOR TO COORDINATE ALL WORK WITH ARCHITECT AND GENERAL CONTRACTOR.

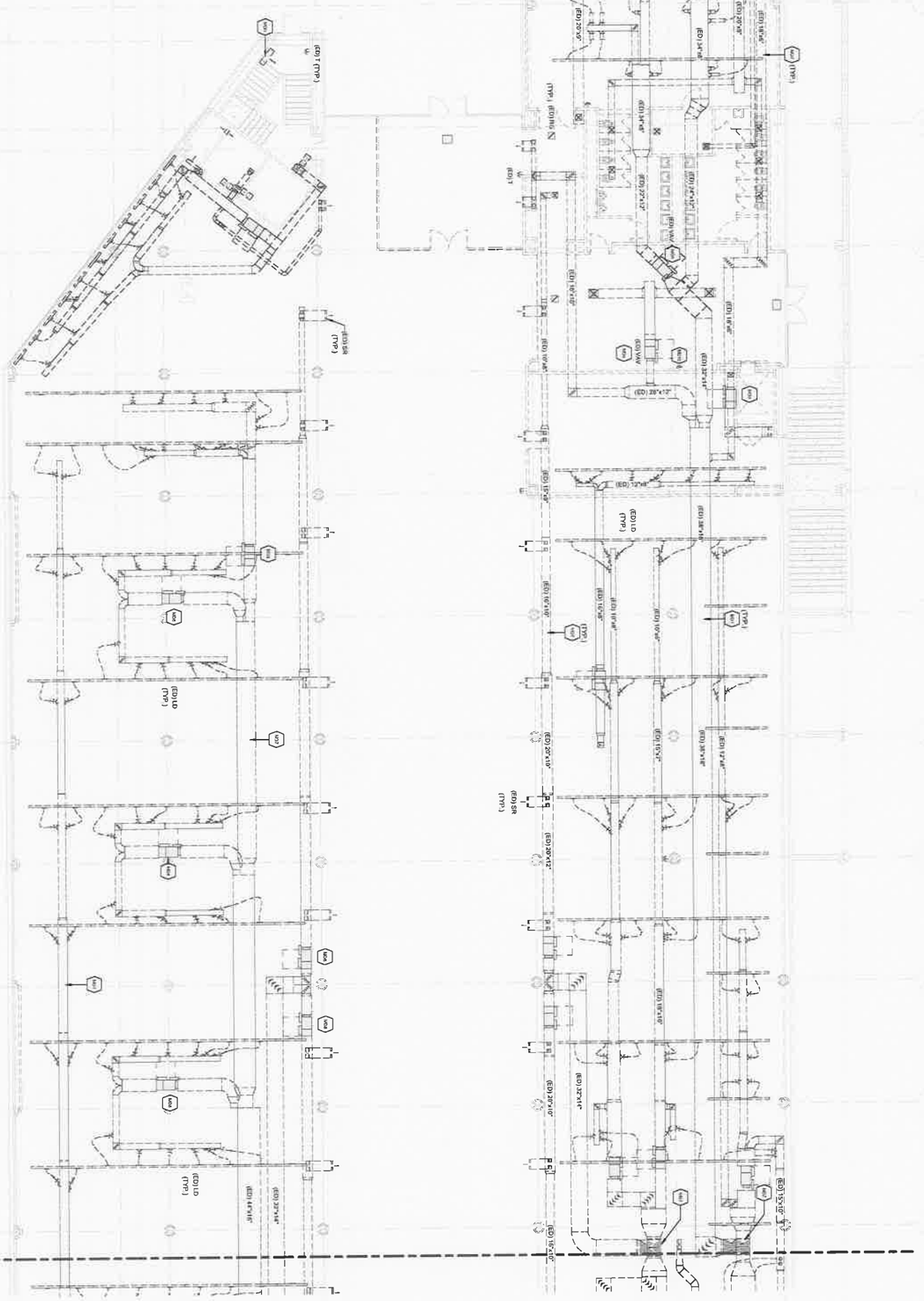
MECHANICAL DEMOLITION KEYNOTES — (#) NOTED THUS

MD7 EXISTING DUCTWORK TO BE DEMOLISHED (TYP.)

MD8 EXISTING EQUIPMENT TO BE DEMOLISHED WITH ALL ITS ASSOCIATED DUCTWORK, REHEAT COILS, CONTROLS, AND AIR ACCESSORIES (TYP.)

MD9 EXISTING EQUIPMENT TO BE DEMOLISHED WITH ALL ITS ASSOCIATED CONTROLS, WIRING, AND ACCESSORIES

MD10 EXISTING WALL MOUNTED THERMOSTAT / TEMPERATURE SENSOR TO BE DEMOLISHED WITH ALL ITS ASSOCIATED WIRING TYPICAL FOR ALL



1 FIRST FLOOR DEMOLITION PLAN- AREA A- MECHANICAL
1/8" = 1'-0"

PROJECT NORTH

TRUE NORTH

MD-1a

NO.	DESCRIPTION	DATE
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FIRST FLOOR DEMOLITION PLAN AREA A- MECHANICAL

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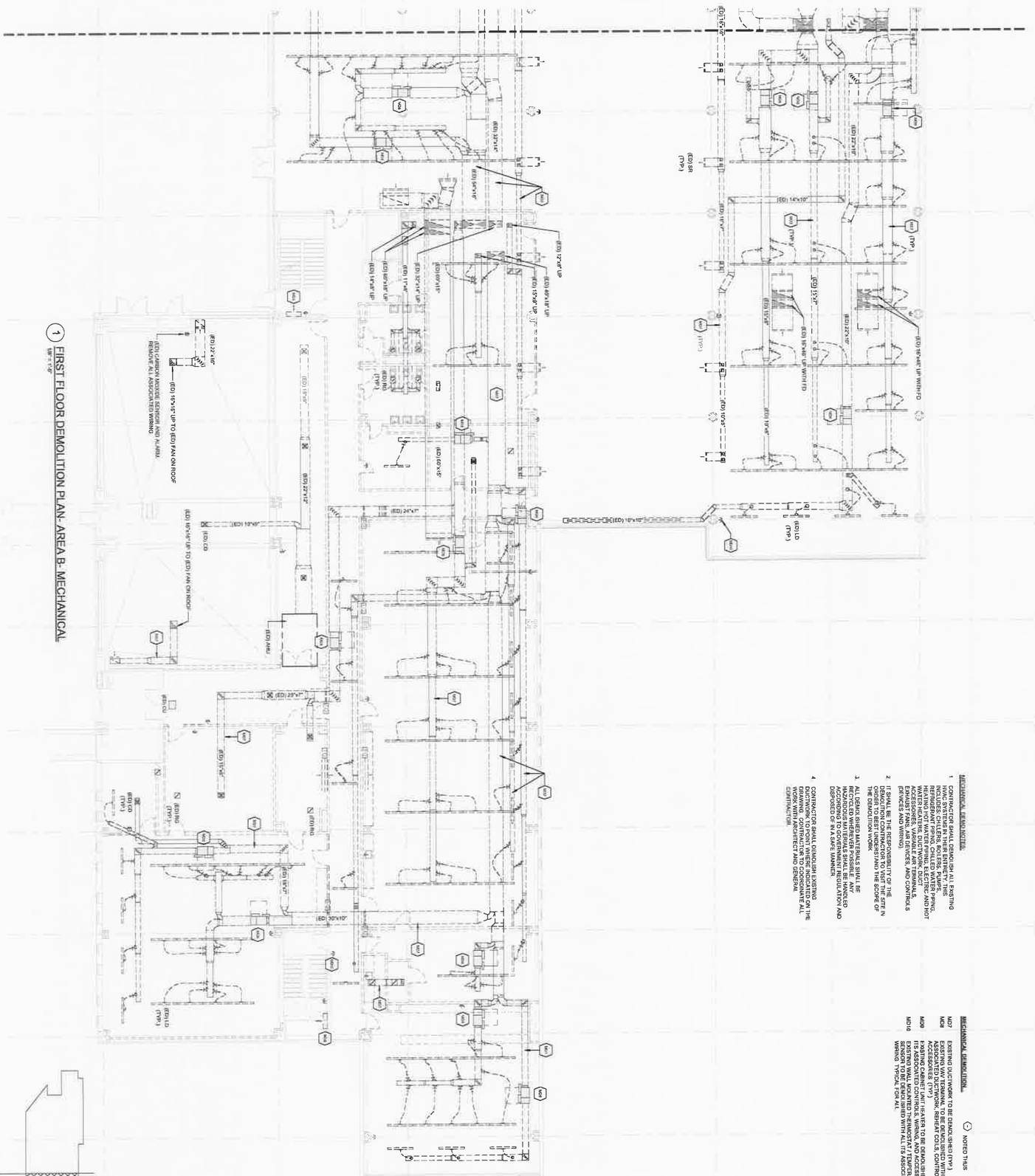
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(ED) 16"x16" UP TO (ED) FAN ON ROOF
REMOVE ALL ASSOCIATED WIRING
(ED) 16"x16" UP TO (ED) FAN ON ROOF
(ED) 16"x16" UP WITH FD
(ED) 24"x14" UP
(ED) 14"x10"
(ED) 30"x10"
(ED) 24"x14"
(ED) 16"x16"
(ED) 28"x14"
(ED) 10"x10"
(ED) 12"x12"
(ED) 18"x18"
(ED) 20"x16"
(ED) 12"x8"
(ED) 8"x8"
(ED) 10"x8"
(ED) 12"x10"
(ED) 12"x6"
(ED) 8"x6"
(ED) 6"x6"
(ED) 6"x4"
(ED) 4"x4"
(ED) 4"x2"
(ED) 2"x2"
(ED) 2"x1"
(ED) 1"x1"
(ED) 1"x1"
(ED) 1

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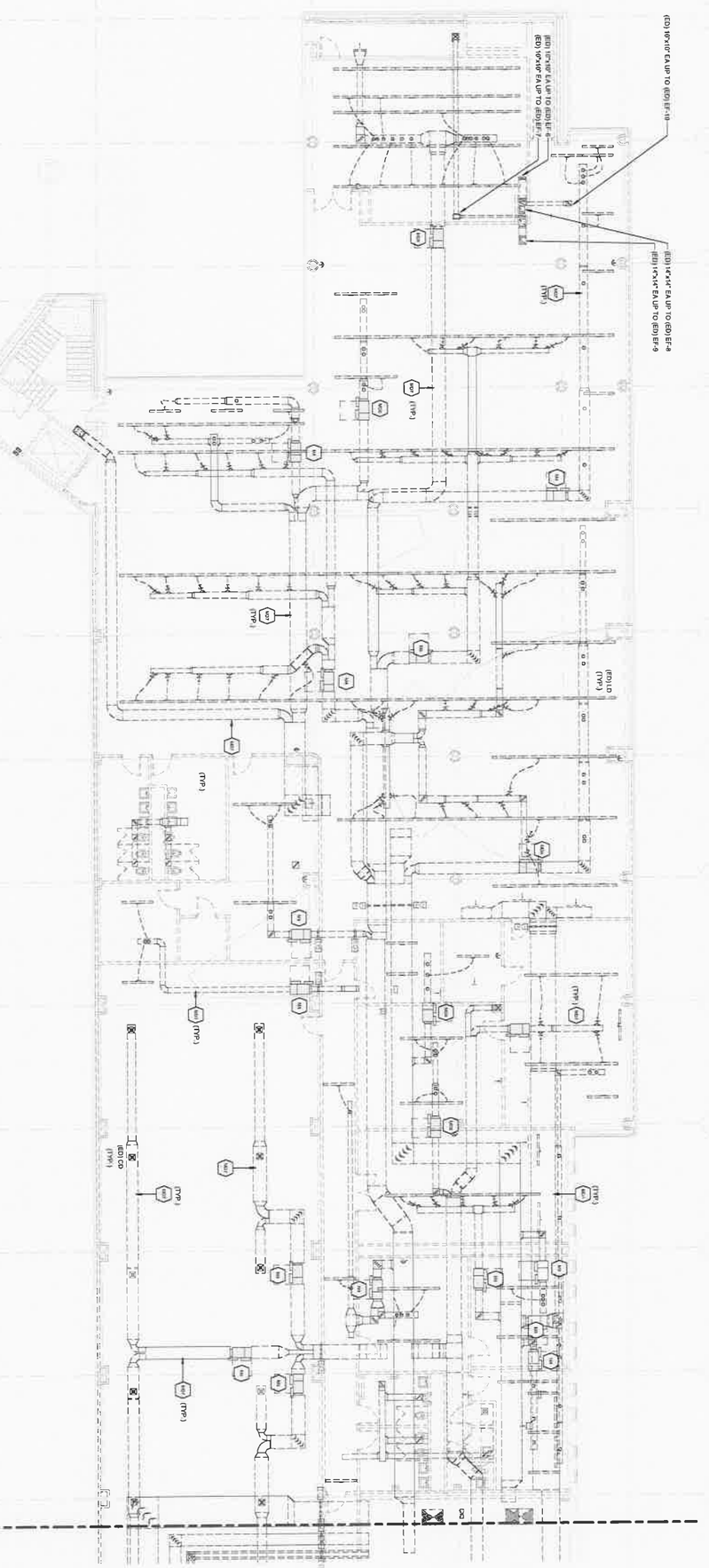
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MECHANICAL DEMOLITION NOTES:

1. CONTRACTOR SHALL REMOVE ALL EXISTING EQUIPMENT AS SHOWN ON THESE DRAWINGS. EXISTING EQUIPMENT TO BE REMOVED SHALL INCLUDE BUT NOT BE LIMITED TO: ALL PIPING, INCLUDES CHILLERS, BOILERS, PUMPS, VALVES, ETC. ASSOCIATED WITH THE PIPING, HEATING HOT WATER PIPING & ELECTRICAL, CONTROLS, WIRING, ETC. ASSOCIATED WITH THE EQUIPMENT, ACCESSORIES, VARIABLE AIR TERMINALS, DUCTWORK, REHEAT COILS, CONTROLS, AND ALL OTHER ITEMS ASSOCIATED WITH THE AIR DISTRIBUTION DEVICES AND WIRING.
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO FULLY UNDERSTAND THE EXTENT OF THE DEMOLITION WORK.
3. ALL DEMOLISHED MATERIALS SHALL BE DISPOSED OF IN A LEGAL MANNER. ANY HAZARDOUS MATERIALS SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH REGULATION AND LAW.
4. CONTRACTOR SHALL DEMOLISH EXISTING EQUIPMENT AS SHOWN ON THE DRAWING. CONTRACTOR TO COORDINATE ALL WORK WITH ARCHITECT AND GENERAL CONTRACTOR.

MECHANICAL DEMOLITION KEYNOTES

MDU	EXISTING DUCTWORK TO BE DEMOLISHED (TYP.)	(1) NOTED THUS
MDE	EXISTING EQUIPMENT TO BE DEMOLISHED WITH ALL ITS ASSOCIATED DUCTWORK, REHEAT COILS, CONTROLS, AND AIR ACCESSORIES (TYP.)	



1 SECOND FLOOR DEMOLITION PLAN- AREA A- MECHANICAL
1/8" = 1'-0"

PROJECT NORTH

TRUE NORTH

MD-2a

SECOND FLOOR DEMOLITION PLAN AREA A-MECHANICAL		
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1 SECOND FLOOR DEMOLITION PLAN- AREA B- MECHANICAL
1/8" = 1'-0"

MECHANICAL DEMOLITION

1. CONTRACTOR SHALL DEMOLISH ALL EXISTING MECHANICAL EQUIPMENT AND SYSTEMS WHICH INCLUDES CHILLERS, BOILERS, PUMPS, HEATING HOT WATER PIPING, ELECTRIC AND HOT WATER PIPING, ELECTRIC WIRING, ACCESSORIES, VARIABLE AIR TERMINALS, DIFFUSERS AND GRILLES, DUCTWORK, DRIVES AND CONTROLS
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BECOME FAMILIAR WITH THE SCOPE OF THE DEMOLITION WORK.
3. ALL DEMOLISHED MATERIALS SHALL BE HAZARDOUS MATERIALS SHALL BE HANDLED ACCORDING TO GOVERNMENT REGULATION AND DISPOSED OF IN A LAWFUL MANNER.
4. CONTRACTOR SHALL DEMOLISH EXISTING MECHANICAL EQUIPMENT AS SHOWN ON THE DRAWING. CONTRACTOR TO COORDINATE ALL CONSTRUCTION WITH ARCHITECT AND GENERAL CONTRACTOR

MECHANICAL DEMOLITION — (X) NOTED THUS

M01 CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING ELECTRICAL EQUIPMENT AND ASSOCIATED CONTROLS, PIPING, DAMPERS, AND ACCESSORIES REMOVE ELECTRICAL CONDUITS AND ASSOCIATED SUCTIONS, AIR DEVICES AND TERMINALS.

M02 DISCONNECT AND REMOVE EXISTING AIR COOLED CHILLERS (INDOOR AND OUTDOOR UNITS) WITH ALL THEIR ASSOCIATED CONTROLS, PIPING, AND ACCESSORIES. CONTRACTOR SHALL SAFELY RECLAIM THE REFRIGERANT ACCORDING WITH THE EPA'S REQUIREMENTS

M03 DISCONNECT AND REMOVE EXISTING CHILLED WATER PUMPS WITH ALL THEIR ASSOCIATED CONTROLS, ELECTRICAL CONDUITS, AND ACCESSORIES

M04 DISCONNECT AND REMOVE EXISTING GAS FIRED BOILERS, WITH ALL THEIR ASSOCIATED PIPING, ELECTRICAL CONNECTIONS, AND ACCESSORIES.

M05 CONTRACTOR SHALL DEMOLISH THE EXISTING HOT WATER PUMPS WITH ALL THEIR ASSOCIATED CONTROLS, ELECTRICAL CONNECTIONS, AND ACCESSORIES

M06 DISCONNECT AND REMOVE EXISTING AIR HANDLING UNITS WITH ALL THEIR ASSOCIATED CONTROLS, ASSOCIATED DUCTWORK, AIR DEVICES, CONTROLS AND ACCESSORIES. CONTRACTOR TO PATCH ALL WALLS OR ROOF OPENINGS

M07 EXISTING DUCTWORK TO BE DEMOLISHED (TYP.)

PROJECT NORTH

TRUE NORTH

MD-2b

SECOND FLOOR DEMOLITION PLAN AREA B- MECHANICAL		
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STRUCTURE

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1 DEMO ROOF PLAN- AREA A- MECHANICAL
1/8" = 1'-0"

MECHANICAL DEMO NOTES:

1. CONTRACTOR SHALL DEMOLISH ALL EXISTING HVAC SYSTEMS IN THEIR ENTIRETY. THIS INCLUDES: CHILLERS, BOILERS, PUMPS, REFRIGERANT PIPING, CHILLED WATER PIPING, HEATING HOT WATER PIPING, ELECTRIC AND HOT WATER HEATERS, DUCTWORK, DUCT ACCESSORIES, VARIABLE AIR TERMINALS, EXHAUST FANS, AIR DEVICES, AND CONTROLS (DEVICES AND WIRING)
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BEST UNDERSTAND THE SCOPE OF THE DEMOLITION WORK
3. ALL DEMOLISHED MATERIALS SHALL BE RECYCLED WHEREVER POSSIBLE. ANY HAZARDOUS MATERIALS SHALL BE HANDLED ACCORDING TO GOVERNMENT REGULATION AND DISPOSED OF IN A SAFE MANNER
4. CONTRACTOR SHALL DEMOLISH EXISTING DUCTWORK TO POINT WHERE INDICATED ON THE DRAWING. CONTRACTOR TO COORDINATE ALL WORK WITH ARCHITECT AND GENERAL CONTRACTOR

MECHANICAL DEMOLITION KEYNOTES (#) NOTED THUS

MD6 EXISTING EXHAUST FAN TO BE DEMOLISHED WITH ALL ITS ASSOCIATED DUCTWORK, AIR DEVICES, CONTROLS AND ACCESSORIES. CONTRACTOR TO PATCH ALL WALLS OR ROOF OPENINGS.

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ROOF DEMOLITION PLAN- AREA A- MECHANICAL

NO.	DESCRIPTION	DATE

MD-3a

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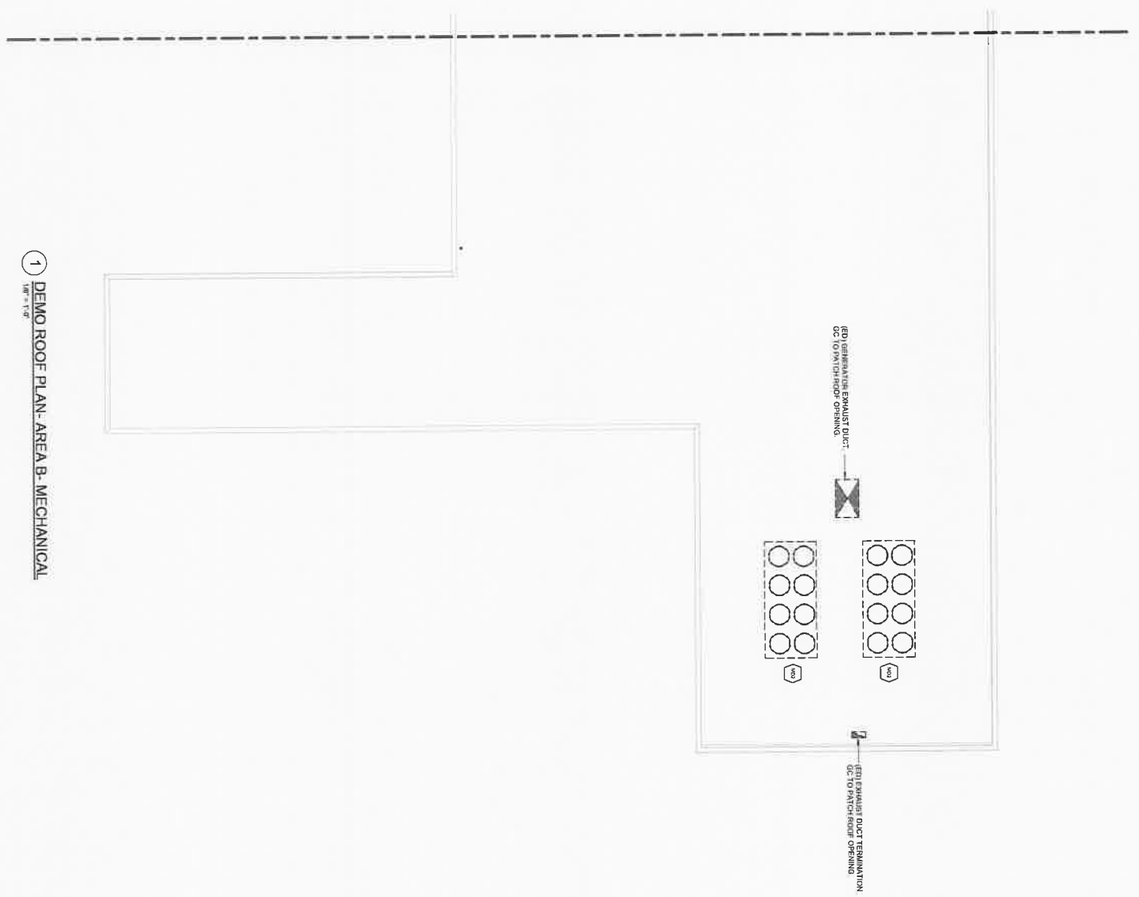
MECHANICAL DEMO NOTES:

1. CONTRACTOR SHALL DEMOLISH ALL EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED ITEMS INCLUDE CHILLERS, BOILERS, PUMPS, PIPING, HEATING HOT WATER PIPING, ELECTRIC AND HOT WATER PERIMETER HEATING EQUIPMENT, PIPING, ACCESSORIES, VARIABLE AIR TERMINALS, EQUIPMENT, DUCTWORK, DIFFUSERS, GRILLES, DEVICES, AND CONTROLS
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO FULLY UNDERSTAND THE EXTENT OF THE DEMOLITION WORK.
3. ALL DEMOLISHED MATERIALS SHALL BE RECYCLED WHERE POSSIBLE. ANY HAZARDOUS MATERIALS SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH REGULATION AND IN A SAFE MANNER.
4. CONTRACTOR SHALL DEMOLISH EXISTING CONSTRUCTION AS REQUIRED TO INSTALL NEW WORK SHOWN ON THE DRAWING. CONTRACTOR TO COORDINATE ALL WORK WITH ARCHITECT AND GENERAL CONTRACTOR.

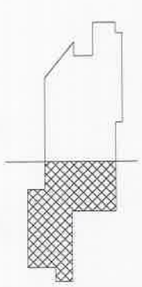
MECHANICAL DEMOLITION:

M2X — NOTED THUS

CONTRACTOR SHALL DEMOLISH THE EXISTING BP/LT AIR COOLED CONDENSING UNIT(S) AND ASSOCIATED EQUIPMENT, ALL THEIR ASSOCIATED CONTROLS, SUPPORTS, ACCESSORIES. CONTRACTOR SHALL SAFELY RECLAIM THE REFRIGERANTS IN ACCORDANCE WITH THE EPA'S REQUIREMENTS



1 DEMO ROOF PLAN- AREA B- MECHANICAL
1/8" = 1'-0"



MD-3b

ROOF DEMOLITION PLAN- AREA B- MECHANICAL

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ABBREVIATIONS

AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AGF	AIR GAP FITTING
AHU	AIR HANDLING UNIT
AMP	AMPERE
APPROX	APPROXIMATE
AV	ACID VENT
AVG	AVERAGE
B.O.P.	BOTTOM OF PIPE
B.F.F.	BELOW FINISHED FLOOR
BFV	BUTTERFLY VALVE
BHP	BRAKE HORSEPOWER
BLV	BALANCING VALVE
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACKWATER VALVE
CA	COMPRESSED AIR
C TO C	CENTER TO CENTER
C/D	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CI	CAST IRON
CISP	CAST IRON SOIL PIPE
CLG	CEILING
CO	CLEANOUT
COL	COLUMN
COND	CONDENSATE
CONN	CONNECTION
CONT	CONTINUED
CONTR	CONTRACTOR
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CV	CHECK VALVE
CW	COLD WATER (DOMESTIC)
DB	DECIBEL
DCBP	DOUBLE CHECK BACKFLOW PREVENTER
DD	DECK DRAIN
DEG	DEGREE
DFU	DRAINAGE FIXTURE UNIT
DI	DEIONIZED WATER
DIA	DIAMETER
DIS	DISTILLED WATER
DISCH	DISCHARGE
DN	DOWN
DP	DEEP
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DVC	DRY VACUUM CLEANING
DWG	DRAWING
DWR	DOMESTIC WATER RISER
(E)	EXISTING
(ED)	EXISTING TO BE DEMOLISHED
(ER)	EXISTING TO BE RELOCATED
EFF	EFFICIENCY
EFL	EFFLUENT
EL	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EMERGENCY SHOWER
EW	EMERGENCY EYEWASH
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERIOR
°F	DEGREE FAHRENHEIT
F	FIRE PROTECTION WATER SUPPLY
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FHC	FIRE HOSE CABINET
FHV	FIRE HOSE VALVE
FIN	FINISH
FF	FINISHED FLOOR
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FEET
FU	FIXTURE UNIT
FV	FLUSH VALVE
G	NATURAL GAS
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRD	GROUND
GWH	GAS WATER HEATER
HB	HOSE BIBB
HC	HANDICAP
HD	HEAD
HP	HORSEPOWER
HPCR	HIGH PRESSURE CONDENSATE RETURN
HPSS	HIGH PRESSURE STEAM SUPPLY
HPWH	HEAT PUMP WATER HEATER
HR	HOUR
HS	HOSE STATION
HT	HEIGHT
HTR	HEATER
HVAC	HEATING VENTILATION AIR CONDITIONING
HZ	FREQUENCY-ELECTRICAL
ID	INSIDE DIAMETER
ID	INDIRECT DRAIN
IE	INVERT ELEVATION
IW	INDIRECT WASTE
KW	KILOWATT
KWH	KILOWATT HOUR
LAV	LAVATORY
LBS	POUNDS
LF	LINEAR FEET
LL	LOW LEVEL
LP	LIQUID PROPANE
LPCR	LOW PRESSURE CONDENSATE RETURN
LPCS	LOW PRESSURE CONDENSATE SUPPLY
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MPCR	MEDIUM PRESSURE CONDENSATE RETURN
MPSS	MEDIUM PRESSURE STEAM SUPPLY
(N)	NEW
NA	NOT APPLICABLE
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OD	OVERFLOW DRAIN
OED	OPEN END DUCT
PCR	PUMPED CONDENSATE RETURN
PD	PUMPED DRAIN
PG	PRESSURE GAUGE
PH	PHASE-ELECTRICAL
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
PEX	CROSS LINKED POLYETHYLENE
QT	QUART
(R)	REMOVE EXISTING
(RE)	RELOCATE EXISTING
RD	ROOF DRAIN
REQ	REQUIRED
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN AIR REGISTER
RWC	RAINWATER CONDUCTOR
RPZ	REDUCED PRESSURE ZONE BFP
SA	SHOCK ABSORBER
SAN	SANITARY WASTE
SCH	SCHEDULE
SF	SQUARE FEET
SH	SHOWER
SP	STANDPIPE
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STR	STRAINER
SUCT	SUCTION
SV	SANITARY VENT
SWV	SANITARY WASTE VENT
T&P	TEMPERATURE & PRESSURE RELIEF VALVE
TEMP	TEMPERATURE
THERM	THERMOMETER
T.O.P	TOP OF PIPE
TP	TRAP PRIMER
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
UTIL	UTILITY
VAC	VACUUM
VB	VACUUM BREAKER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
VPC	V/A PHOTOCELL
VTC	V/A TIME CLOCK
VTR	VENT THROUGH ROOF
W/	WITH
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WP	WEATHERPROOF
W/O	WITHOUT
WSFU	WATER SUPPLY FIXTURE UNITS

PLUMBING GENERAL NOTES

1. ALL WORK TO BE IN CONFORMANCE WITH THE 2018 INTERNATIONAL PLUMBING CODE, [INSERT CODE YEAR] CITY OF PHILADELPHIA PLUMBING CODE, [INSERT CODE YEAR] NATIONAL STANDARD PLUMBING CODE, OR LOCAL CODE HAVING JURISDICTION, NOT ALL CODE REQUIREMENTS HAVE BEEN DESCRIBED IN THIS SPECIFICATION OR INDICATED ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE CODES AND INSTALL THE WORK IN ACCORDANCE WITH CODES.
2. OBTAIN AND PAY FOR BUILDING PERMITS, INSPECTIONS, CONNECTION CHARGES, AND FEES.
3. THE CONTRACTOR IS TO SURVEY AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMISSION AND BECOME AWARE OF ALL CONDITIONS WHICH MAY IMPACT THE REQUIRED WORK. CONTRACTOR IS TO INCLUDE ALL ASSOCIATED COSTS (MATERIALS/ LABOR) DETERMINED TO BE REQUIRED DURING SITE INSPECTIONS. CONTRACTOR'S BID SUBMISSION IS TO BE CONSIDERED PROOF THAT THIS REQUIREMENT HAS BEEN MET.
4. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE TAKEN AS A WHOLE. IF A CONFLICT OR CONTRADICTION EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT WILL APPLY. THE ARCHITECT'S AND ENGINEER'S INTERPRETATION OF THE DOCUMENTS ARE TO BE BINDING UPON THE CONTRACTOR.
5. ALL WORK IS TO BE COORDINATED WITH, AND APPROVED BY THE OWNER PRIOR TO ANY SHUT-DOWNS. ALL REQUESTS ARE TO BE SUBMITTED, IN WRITING, TO THE OWNER 24, TO 48 HOURS PRIOR TO REQUESTED DELETIONS.
6. COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
7. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR PRIOR TO PURCHASING EQUIPMENT. VERIFY ALL VOLTAGE AND AMPERE REQUIREMENTS FOR FEEDERS, AND MOCP DEVICES.
8. ALL EXTERIOR WALL/ ROOF PENETRATIONS ARE TO BE SEALED, AIR, AND WATER-TIGHT. ALL PIPING PASSING THROUGH WALL, OR FLOOR PENETRATIONS IS TO HAVE SLEEVES. ALL WALL, OR FLOOR-RATED PENETRATIONS ARE TO BE SEALED WITH FIRE-RATED SEALANT FORMED IN PLACE (BY 3M OR HILTI)
9. VENTS THROUGH ROOF SHALL BE FLASHED WITH "SURE SEAL" PRE-MOLDED OR SIMILAR TYPE BOOT AS RECOMMENDED BY THE ROOFING CONTRACTOR.
10. PROVIDE ALL ACCESS DOORS FOR ALL VALVES, DAMPERS, DEVICES, CONTROLLERS, ETC. WHICH MAY REQUIRE SERVICE. ALL ACCESS PANELS ARE BE 16 GAUGE STEEL FRAME, 20 GAUGE HINGED DOOR, LOCKABLE, AND FIRE-RATED (WHEN INSTALLED IN RATED WALLS, FLOORS. "B" LABEL, 1-1/2 HOURS) FINISH AS SELECTED BY THE ARCHITECT.
11. SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO BE REVIEWED BY THE ENGINEER PRIOR TO ORDERING. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR, AND PHYSICAL DIMENSIONS PRIOR TO SHOP DRAWING SUBMISSION.
12. ALL WORK TO BE CONCEALED UNLESS OTHERWISE INDICATED.
13. THE PLUMBING CONTRACTOR SHALL PROVIDE ALL REQUIRED INPUT OF THE PLUMBING SYSTEM TO THE MECHANICAL CONTRACTOR FOR THE COORDINATION DRAWINGS.
14. PROVIDE RECORD AS-BUILT DRAWINGS AT COMPLETION OF WORK. SUBMIT TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.
15. ALL FINISHES RELATED TO PLUMBING EQUIPMENT, TERMINAL EQUIPMENT, AIR DEVICES, PERIMETER HEATERS, LOUVERS, ACCESS PANELS, EXPOSED WIRE/MOLD/RACEWAY/ETC. ETC. SHALL BE COORDINATED AND SELECTED BY THE ARCHITECT/OWNER/ENGINEER PRIOR TO SHOP DRAWING SUBMISSION, ORDERING, AND INSTALLATION.
16. FINAL LOCATIONS OF ALL ACCESS PANELS, ETC. IN FINISHED SPACES SHALL BE COORDINATED AND APPROVED BY THE ARCHITECT/OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
17. NO PVC PIPING IS PERMITTED IN RETURN AIR PLENUMS.
18. ALL THREE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AND IS TO BE MAGNETIC, ACROSS THE LINE WITH AUXILIARY CONTACTS. ALL SINGLE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
19. ALL TRIM, TRAPS, ESCUTCHEON PLATES, SEAT HINGES AND ANY MISCELLANEOUS PARTS OF FIXTURES SHALL BE CHROME PLATED BRASS.
20. THE CONTRACTOR IS TO COORDINATE HIS WORK, AND THE WORK OF HIS SUB-CONTRACTORS TO ENSURE THAT ALL OF THE WORK IS COMPLETE AND OPERATIONAL. THE CONTRACTOR IS TO PROVIDE COMPLETE COORDINATION DRAWINGS, INCLUDING ALL TRADES (MECHANICAL, ELECTRICAL, AND FIRE PROTECTION) THE CONTRACTOR IS TO COORDINATE ALL CONNECTIONS TO SITE CIVIL WORK PRIOR TO STARTING WORK.
21. THE CONTRACTOR IS TO PROVIDE BALANCING VALVES ON ALL BRANCHES OF THE DOMESTIC HOT WATER RETURN SYSTEM, BALANCE THE SYSTEM, AND PROVIDE BALANCING REPORT TO THE OWNER/ ENGINEER FOR RECORD.
22. THE CONTRACTOR IS TO PROVIDE MANUFACTURER'S START-UP OF ALL EQUIPMENT, AND SYSTEMS.
23. PROPERLY INSTRUCT OWNER'S PERSONNEL IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. PROVIDE THREE INSTRUCTION AND MAINTENANCE MANUALS. SUBMIT MANUALS FOR REVIEW PRIOR TO OPERATING INSTRUCTION.
24. COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
25. IF THE CONTRACTOR ELECTS TO SUBMIT ALTERNATE EQUIPMENT, MANUFACTURERS, SYSTEMS, METHODS, OR MATERIALS NOT SPECIALLY IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK WITH OTHER TRADES AND PAY FOR ANY ADDITIONAL COSTS ASSOCIATED WITH THE SUBSTITUTION OR CHANGE.
26. PROVIDE ONE SET OF ELECTRONIC AS-BUILT DRAWINGS AT COMPLETION OF WORK. SUBMIT TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.

PROJECT DEDUCT/ADD ALTERNATES

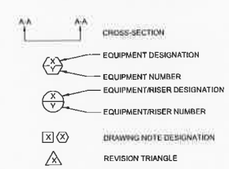
CONTRACTOR NOTES

DRAWING LIST

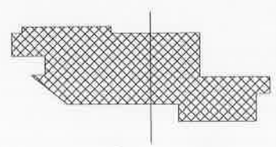
Drawing List- Plumbing

NUMBER	NAME	DEMO PACKAGE 07/03/24	Current Revision	Current Revision Date	Current Revisions
P-1	COVER SHEET- PLUMBING	*			
PD-1a	FIRST FLOOR DEMOLITION PLAN AREA A- PLUMBING	*			
PD-1b	FIRST FLOOR DEMOLITION PLAN AREA B- PLUMBING	*			
PD-2a	SECOND FLOOR DEMOLITION PLAN AREA A- PLUMBING	*			
PD-2b	SECOND FLOOR DEMOLITION PLAN AREA B- PLUMBING	*			
PD-3a	ROOF DEMOLITION PLAN- AREA A- PLUMBING	*			
PD-3b	ROOF DEMOLITION PLAN- AREA A- PLUMBING	*			

DRAWING SYMBOLS



SPRINKLER NOTE:



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COVER SHEET: PLUMBING

NO.	DESCRIPTION	DATE
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P-1

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1 FIRST FLOOR DEMOLITION PLAN- AREA A- PLUMBING
1/8" = 1'-0"

GENERAL PLUMBING DEMOLITION NOTES:

1. IT SHALL BE THE INTENTION TO REMOVE ALL EXISTING PLUMBING SYSTEMS IN THEIR ENTIRETY.
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BEST UNDERSTAND THE SCOPE OF THE DEMOLITION WORK.
3. ALL DEMOLISHED MATERIALS SHALL BE RECYCLED WHEREVER POSSIBLE. ANY HAZARDOUS MATERIALS SHALL BE HANDLED ACCORDING TO GOVERNMENT REGULATION AND DISPOSED OF IN A SAFE MANNER.
4. ALL EXISTING SYSTEMS SHALL BE COMPLETELY REMOVED AND CLEANED LEAVING NO ABANDONED MATERIAL.
5. THE SCOPE OF PLUMBING DEMOLITION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   - A THE EXISTING SANITARY AND VENT SYSTEM INCLUDING PIPING, HANGERS FITTINGS, SLEEVES, PUMPS, CONTROLS, WIRING, ETC.
   - B THE EXISTING STORM WATER SYSTEM INCLUDING ALL PIPING, HANGERS, FITTINGS, DRAINS, INSULATION, SLEEVES, PUMPS, CONTROLS, WIRING, ETC.
   - C. THE EXISTING DOMESTIC WATER SYSTEM INCLUDING ALL COLD WATER, HOT WATER SUPPLY AND HOT WATER RETURN PIPING, HANGERS, FITTINGS, VALVES, WATER HEATERS, TANKS, PUMPS, CONTROLS, WIRING, SLEEVES, BACKFLOW PREVENTERS, METERS, ETC.
   - D ALL EXISTING FIXTURES, FAUCETS, FLUSH VALVES, TRAPS, HANGERS, STOPS, ETC.
   - E REMOVE EXISTING LP GAS SYSTEM, TANKS AND ALL ASSOCIATED APPARATUSES.

PLUMBING DEMOLITION KEYNOTES ⟨⟩ NOTED THUS

PD1 CONTRACTOR SHALL REMOVE EXISTING PLUMBING FIXTURES, FLOOR FLANGES, DOMESTIC WATER, SANITARY, AND VENT PIPING SHALL BE REMOVED. THE PLUMBING CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION SCOPE OF WORK TO CUT, CAP, PLUG, TEMPORARILY CAP, MODIFY OR RELOCATE, ANY EXISTING PIPING TO REMAIN IN SERVICE DURING DEMOLITION PHASE. THE CONTRACTOR SHALL MAKE PROVISIONS TO CUT & CAP PIPING BELOW THE BASEMENT FLOOR, IN ACCORDANCE WITH "2018" IPC 702.1 & PATCH THE FLOOR TO MATCH EXISTING. REFER TO & COORDINATE WITH NEW WORK PLANS AND NOTES FOR ADDITIONAL INFORMATION.

PD2 CONTRACTOR TO REMOVE EXISTING PLUMBING FIXTURE. FIXTURE STOPS (SHUT OFF VALVES), ESCUTCHEONS FLOOR FLANGES AND ALL RELATED APPURTENANCES. CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION SCOPE OF WORK TO MODIFY ROUGH IN LOCATIONS OF ANY DOMESTIC WATER & SANITARY DRAIN WHEN REQUIRED TO STAY IN SRVICE DURING DEMOLITION PHASE. IT IS THE INTENT TO REMOVE ALL EXISTING PLUMBING PIPING BACK TO THE MAINS, & TO REMOVE ALL PLUMBING MAINS BACK TO CONNECTIONS INDICATED ON THE NEW WORK PLANS AS NEW TO EXISTING CONNECTIONS.

PD6 CUT AND CAP EXISTING STACKS 18 ABOVE FINISHED FLOOR FOR FUTURE CONNECTION

PD9 THE PLUMBING CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION WORK TO INSPECT & SCOPE THE EXISTING SANITARY AND STORM MAINS OUT TO THE SITE OR STREET CONNECTION. THE CONTRACTOR SHALL JET AND FLUSH ANY OBSTRUCTIONS IN THE EXISTING TO REMAIN DRAINAGE SYSTEMS. THE CONTRACTOR SHALL CONSULT THE A.E. & OWNERS PRIOR TO REPLACMENT OF ANY SYSTEM OR SYSTEMS INDICATED AS EXISTING TO REMAIN OR DEEMED TO BE DEFECTIVE, UNSOUND OR OTHERWISE DAMAGED.

N PROJECT NORTH

TRUE NORTH

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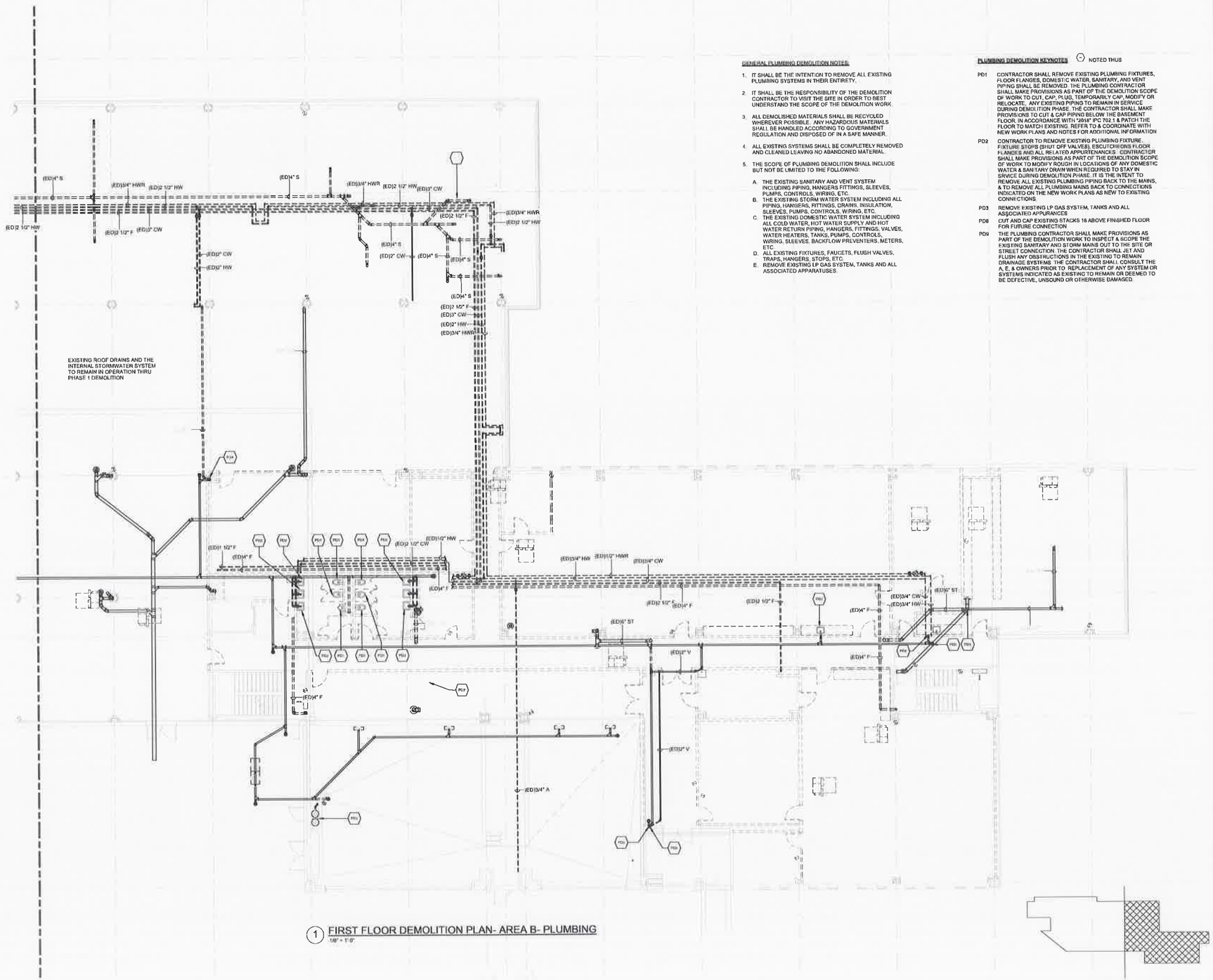
FIRST FLOOR DEMOLITION PLAN AREA A- PLUMBING

NO.	DESCRIPTION	DATE
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PD-1a

7/11/2024 4:35:04 PM

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1 FIRST FLOOR DEMOLITION PLAN- AREA B- PLUMBING
1/8" = 1'-0"

GENERAL PLUMBING DEMOLITION NOTES:

1. IT SHALL BE THE INTENTION TO REMOVE ALL EXISTING PLUMBING SYSTEMS IN THEIR ENTIRETY.
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BEST UNDERSTAND THE SCOPE OF THE DEMOLITION WORK.
3. ALL DEMOLISHED MATERIALS SHALL BE RECYCLED WHEREVER POSSIBLE. ANY HAZARDOUS MATERIALS SHALL BE HANDLED ACCORDING TO GOVERNMENT REGULATION AND DISPOSED OF IN A SAFE MANNER.
4. ALL EXISTING SYSTEMS SHALL BE COMPLETELY REMOVED AND CLEANED LEAVING NO ABANDONED MATERIAL.
5. THE SCOPE OF PLUMBING DEMOLITION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   - A. THE EXISTING SANITARY AND VENT SYSTEM INCLUDING PIPING, HANGERS FITTINGS, SLEEVES, PUMPS, CONTROLS, WIRING, ETC.
   - B. THE EXISTING STORM WATER SYSTEM INCLUDING ALL PIPING, HANGERS, FITTINGS, DRAINS, INSULATION, SLEEVES, PUMPS, CONTROLS, WIRING, ETC.
   - C. THE EXISTING DOMESTIC WATER SYSTEM INCLUDING ALL COLD WATER, HOT WATER SUPPLY AND HOT WATER RETURN PIPING, HANGERS, FITTINGS, VALVES, WATER HEATERS, TANKS, PUMPS, CONTROLS, WIRING, SLEEVES, BACKFLOW PREVENTERS, METERS, ETC.
   - D. ALL EXISTING FIXTURES, FAUCETS, FLUSH VALVES, TRAPS, HANGERS, STOPS, ETC.
   - E. REMOVE EXISTING LP GAS SYSTEM, TANKS AND ALL ASSOCIATED APPARATUSES.

PLUMBING DEMOLITION KEYNOTES (-) NOTED THUS

- PD1 CONTRACTOR SHALL REMOVE EXISTING PLUMBING FIXTURES, FLOOR FLANGES, DOMESTIC WATER, SANITARY, AND VENT PIPING SHALL BE REMOVED. THE PLUMBING CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION SCOPE OF WORK TO CUT, CAP, PLUG, TEMPORARILY CAP, MODIFY OR RELOCATE, ANY EXISTING PIPING TO REMAIN IN SERVICE DURING DEMOLITION PHASE. THE CONTRACTOR SHALL MAKE PROVISIONS TO CUT & CAP PIPING BELOW THE BASEMENT FLOOR, IN ACCORDANCE WITH "2018" IPC 702.1 & PATCH THE FLOOR TO MATCH EXISTING. REFER TO & COORDINATE WITH NEW WORK PLANS AND NOTES FOR ADDITIONAL INFORMATION
- PD2 CONTRACTOR TO REMOVE EXISTING PLUMBING FIXTURE, FIXTURE STOPS (SHUT OFF VALVES), ESCUTCHEONS FLOOR FLANGES AND ALL RELATED APPURTENANCES. CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION SCOPE OF WORK TO MODIFY ROUGH IN LOCATIONS OF ANY DOMESTIC WATER & SANITARY DRAIN WHEN REQUIRED TO STAY IN SRVICE DURING DEMOLITION PHASE. IT IS THE INTENT TO REMOVE ALL EXISTING PLUMBING PIPING BACK TO THE MAINS, & TO REMOVE ALL PLUMBING MAINS BACK TO CONNECTIONS INDICATED ON THE NEW WORK PLANS AS NEW TO EXISTING CONNECTIONS.
- PD3 REMOVE EXISTING LP GAS SYSTEM, TANKS AND ALL ASSOCIATED APPURANCES
- PD8 CUT AND CAP EXISTING STACKS 18 ABOVE FINISHED FLOOR FOR FUTURE CONNECTION
- PD9 THE PLUMBING CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION WORK TO INSPECT & SCOPE THE EXISTING SANITARY AND STORM MAINS OUT TO THE SITE OR STREET CONNECTION. THE CONTRACTOR SHALL JET AND FLUSH ANY OBSTRUCTIONS IN THE EXISTING TO REMAIN DRAINAGE SYSTEMS. THE CONTRACTOR SHALL CONSULT THE A, E, & OWNERS PRIOR TO REPLACEMENT OF ANY SYSTEM OR SYSTEMS INDICATED AS EXISTING TO REMAIN OR DEEMED TO BE DEFECTIVE, UNSOUND OR OTHERWISE DAMAGED.

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FIRST FLOOR DEMOLITION PLAN AREA B- PLUMBING

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PD-1b

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1 SECOND FLOOR DEMOLITION PLAN- AREA A- PLUMBING
"/8" = 1'-0"

GENERAL PLUMBING DEMOLITION NOTES:

1 IT SHALL BE THE INTENTION TO REMOVE ALL EXISTING PLUMBING SYSTEMS IN THEIR ENTIRETY.

2 IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BEST UNDERSTAND THE SCOPE OF THE DEMOLITION WORK

3 ALL DEMOLISHED MATERIALS SHALL BE RECYCLED WHEREVER POSSIBLE. ANY HAZARDOUS MATERIALS SHALL BE HANDLED ACCORDING TO GOVERNMENT REGULATION AND DISPOSED OF IN A SAFE MANNER

4 ALL EXISTING SYSTEMS SHALL BE COMPLETELY REMOVED AND CLEANED LEAVING NO ABANDONED MATERIAL.

5 THE SCOPE OF PLUMBING DEMOLITION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING

A. THE EXISTING SANITARY AND VENT SYSTEM INCLUDING PIPING, HANGERS FITTINGS, SLEEVES, PUMPS, CONTROLS, WIRING, ETC.
B. THE EXISTING STORM WATER SYSTEM INCLUDING ALL PIPING, HANGERS, FITTINGS, DRAINS, INSULATION, SLEEVES, PUMPS, CONTROLS, WIRING, ETC.
C. THE EXISTING DOMESTIC WATER SYSTEM INCLUDING ALL COLD WATER, HOT WATER SUPPLY AND HOT WATER RETURN PIPING, HANGERS, FITTINGS, VALVES, WATER HEATERS, TANKS, PUMPS, CONTROLS, WIRING, SLEEVES, BACKFLOW PREVENTERS, METERS, ETC.
D. ALL EXISTING FIXTURES, FAUCETS, FLUSH VALVES, TRAPS, HANGERS, STOPS, ETC.
E. REMOVE EXISTING LP GAS SYSTEM, TANKS AND ALL ASSOCIATED APPARATUSES

PLUMBING DEMOLITION KEYNOTES (PD) NOTED THUS

PD1 CONTRACTOR SHALL REMOVE EXISTING PLUMBING FIXTURES, FLOOR FLANGES, DOMESTIC WATER, SANITARY, AND VENT PIPING SHALL BE REMOVED. THE PLUMBING CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION SCOPE OF WORK TO CUT, CAP, PLUG, TEMPORARILY CAP, MODIFY OR RELOCATE, ANY EXISTING PIPING TO REMAIN IN SERVICE DURING DEMOLITION PHASE. THE CONTRACTOR SHALL MAKE PROVISIONS TO CUT & CAP PIPING BELOW THE BASEMENT FLOOR, IN ACCORDANCE WITH "2018" IPC 702.1 & PATCH THE FLOOR TO MATCH EXISTING. REFER TO & COORDINATE WITH NEW WORK PLANS AND NOTES FOR ADDITIONAL INFORMATION.

PD2 CONTRACTOR TO REMOVE EXISTING PLUMBING FIXTURE. FIXTURE STOPS (SHUT OFF VALVES), ESCUTCHEONS FLOOR FLANGES AND ALL RELATED APPURTENANCES. CONTRACTOR SHALL MAKE PROVISIONS AS PART OF THE DEMOLITION SCOPE OF WORK TO MODIFY ROUGH IN LOCATIONS OF ANY DOMESTIC WATER & SANITARY DRAIN WHEN REQUIRED TO STAY IN SRVICE DURING DEMOLITION PHASE. IT IS THE INTENT TO REMOVE ALL EXISTING PLUMBING PIPING BACK TO THE MAINS, & TO REMOVE ALL PLUMBING MAINS BACK TO CONNECTIONS INDICATED ON THE NEW WORK PLANS AS NEW TO EXISTING CONNECTIONS

PD3 CUT AND CAP EXISTING STACKS 1B ABOVE FINISHED FLOOR FOR FUTURE CONNECTION

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SECOND FLOOR DEMOLITION PLAN AREA A- PLUMBING

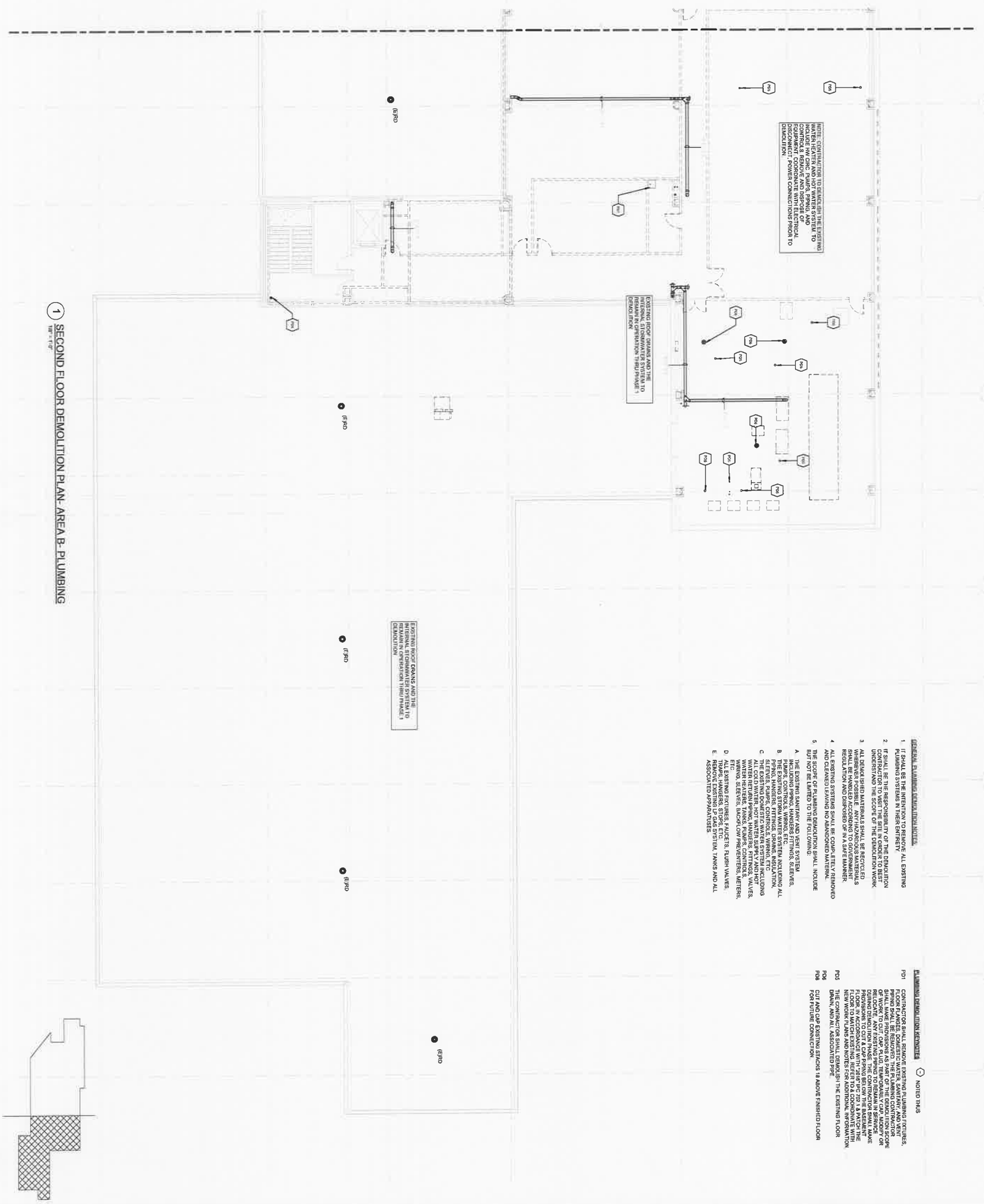
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NOT FOR CONSTRUCTION



1 SECOND FLOOR DEMOLITION PLAN- AREA B- PLUMBING
1/8" = 1'-0"

GENERAL PLUMBING DEMOLITION NOTES:

1. IT SHALL BE THE INTENTION TO REMOVE ALL EXISTING PLUMBING SYSTEMS IN THEIR ENTIRETY
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BEST UNDERSTAND THE SCOPE OF THE DEMOLITION WORK
3. ALL DEMOLISHED MATERIALS SHALL BE RECYCLED WHERE POSSIBLE. ALL HAZARDOUS MATERIALS SHALL BE HANDLED ACCORDING TO GOVERNMENT REGULATION AND DISPOSED OF IN A SAFE MANNER.
4. ALL PLUMBING FIXTURES SHALL BE REMOVED AND CLEANED LEAVING NO ASSOCIATED MATERIAL
5. THE SCOPE OF PLUMBING DEMOLITION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   - A. THE EXISTING SANITARY AND VENT SYSTEM INCLUDING ALL PIPING, FITTINGS, TRAPS, SLEEVES, PUMPS, CONTROLS, WIRING, ETC.
   - B. THE EXISTING DOMESTIC WATER SYSTEM INCLUDING ALL PIPING, HANGERS, FITTINGS, DRAINS, INSULATION, VALVES, BACKFLOW PREVENTERS, ETC.
   - C. SLEEVES, RUSH CONTROLS, PENETRATIONS INCLUDING ALL COLD WATER, HOT WATER SUPPLY AND HOT WATER RETURN PIPING, INSULATION, VALVES, WATER HEATERS, TANKS, PUMPS, CONTROLS, TEMPERING VALVES, EXPANSION TANKS, ETC.
   - D. ALL EXISTING PLUMBING FIXTURES, FAUCETS, FLUSH VALVES, TRAPS, HANGERS, STOPS, ETC.
   - E. REMOVE EXISTING LP GAS SYSTEM, TANKS AND ALL ASSOCIATED APPURTENANCES

PLUMBING DEMOLITION KEYNOTES

- PD1 CONTRACTOR SHALL REMOVE EXISTING PLUMBING FIXTURES, PIPING AND EQUIPMENT AS INDICATED. ALL PLUMBING FIXTURES, PIPING SHALL BE REMOVED. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR THE SCOPE OF WORK TO CUT, CAP, PLUG, TEMPORARILY CAP, MODIFY OR REMOVE PLUMBING PIPING AS REQUIRED FOR CONSTRUCTION DURING DEMOLITION PHASE. THE CONTRACTOR SHALL MAKE PROVISIONS FOR TEMPORARY PLUMBING FACILITIES AS REQUIRED FOR IN ACCORDANCE WITH THE PHASING PLAN. REFER TO A SHEET FOR THE EXTENT OF DEMOLITION.
- PD2 THE CONTRACTOR SHALL DEMOLISH THE EXISTING FLOOR DRAIN, AND ALL ASSOCIATED PIPE
- PD3 CUT AND CAP EXISTING STACKS 18 ABOVE FINISHED FLOOR FOR FUTURE CONNECTION

NOTED TAGS

PROJECT NORTH
TRUE NORTH

SECOND FLOOR DEMOLITION PLAN AREA B- PLUMBING		
NO.	DESCRIPTION	DATE
	DEMO PACKAGE	07/03/24

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PD-2b

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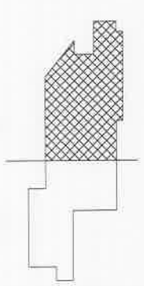
GENERAL PLUMBING DEMOLITION NOTES:

1. PLUMBING CONTRACTOR SHALL DEMOLISH ALL EXISTING PLUMBING SYSTEMS IN THEIR ENTIRETY.
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BEST UNDERSTAND THE SCOPE OF THE DEMOLITION WORK.
3. ALL MATERIALS TO BE REMOVED SHALL BE DISPOSED WHEREVER POSSIBLE, ANY HAZARDOUS MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL REGULATION AND DISPOSED OF IN A SAFE MANNER.
4. ALL EXISTING SYSTEMS SHALL BE COMPLETELY REMOVED AND CLEANED, LEAVING NO ABANDONED MATERIAL.
5. THE SCOPE OF PLUMBING DEMOLITION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   - A. THE ENTIRE DOMESTIC WATER SYSTEM INCLUDING ALL PIPING, HANGERS, FITTINGS, SLEEVES, INSULATION, VALVES, ETC.
   - B. THE EXISTING STORM WATER SYSTEM INCLUDING ALL PIPING, HANGERS, FITTINGS, CHANNEL INSULATION, ETC.
   - C. THE EXISTING DOMESTIC WATER SYSTEM INCLUDING ALL EXISTING PIPING, HANGERS, FITTINGS, VALVES, WATER RETURN PIPING, HANGERS, FITTINGS, VALVES, INSULATION, ETC.
   - D. ALL EXISTING FIXTURES, FAUCETS, FLUSH VALVES, WIRING, SLEEVES, BACKFLOW PREVENTERS, METERS, ETC.
   - E. REMOVE EXISTING GAS SYSTEM, TANKS AND ALL ASSOCIATED APPARATUSES

PLUMBING DEMOLITION KEYNOTES (X) NOTED THUS

P010 EXISTING ROOF DRAINS AND THE INTERNAL STORMWATER SYSTEM TO REMAIN IN OPERATION THRU PHASE 1 DEMOLITION. STORM DRAINS, SMALL PIPING AND INSULATION TO REMAIN AND WILL BE ENCLOSED WITHIN PHASE 2 DEMOLITION.

1 DEMO ROOF PLAN - AREA A- PLUMBING
1/8" = 1'-0"



EXISTING ROOF DRAINS AND THE INTERNAL STORMWATER SYSTEM TO REMAIN IN OPERATION THRU PHASE 1 DEMOLITION

PD-3a

ROOF DEMOLITION PLAN- AREA A- PLUMBING

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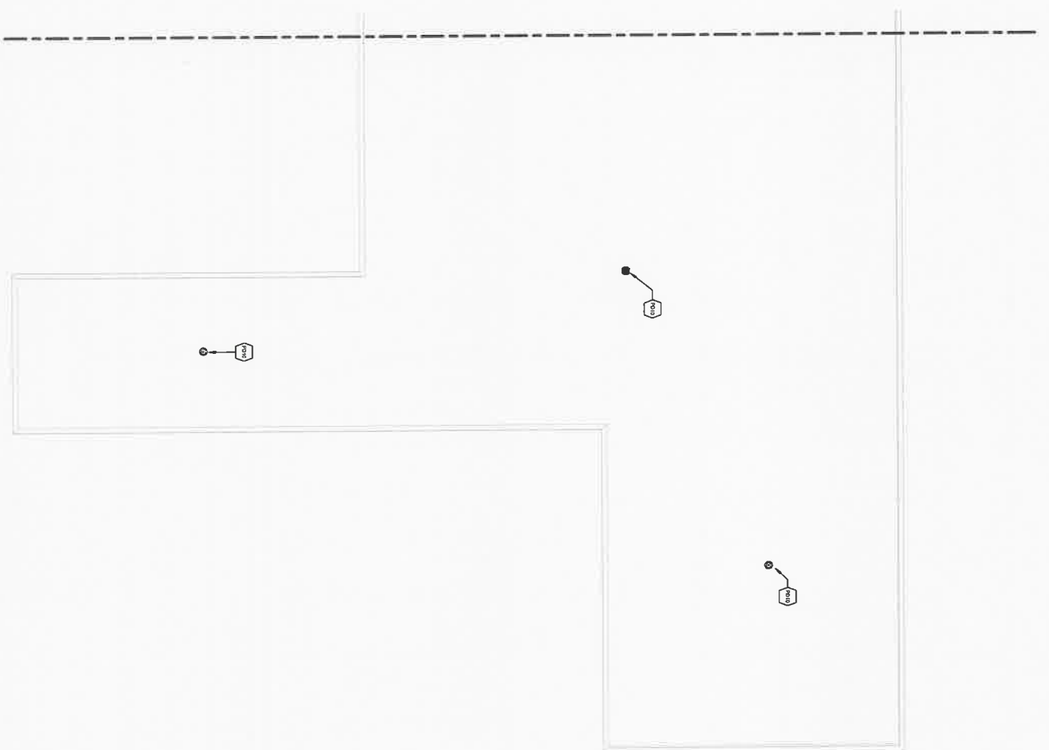
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GENERAL PLUMBING DEMOLITION NOTES:

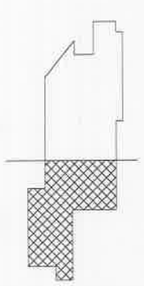
1. PLUMBING CONTRACTOR SHALL REMOVE ALL EXISTING PLUMBING SYSTEMS IN THEIR ENTIRETY.
2. IT SHALL BE THE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR TO VISIT THE SITE IN ORDER TO BEST UNDERSTAND THE SCOPE OF THE DEMOLITION WORK.
3. ALL MATERIALS SHALL BE RECYCLED WHERE/EVER POSSIBLE. ANY HAZARDOUS MATERIALS SHALL BE HANDLED AND DISPOSED OF IN ACCORDANCE WITH REGULATION AND DISPOSED OF IN A SAFE MANNER.
4. ALL EXISTING SYSTEM SHALL BE COMPLETELY REMOVED AND CLEANED LEAVING NO ABANDONED MATERIAL
5. THE SCOPE OF PLUMBING DEMOLITION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   - A. ALL EXISTING PLUMBING FIXTURES AND EQUIPMENT INCLUDING PIPING, HANGERS FITTINGS, SLEEVES.
   - B. THE EXISTING STORM WATER SYSTEM INCLUDING ALL PIPING, HANGERS, FITTINGS, DRAINS, INSULATION.
   - C. THE EXISTING DOMESTIC WATER SYSTEM INCLUDING ALL CIRCULATING PUMPS, WATER HEATERS, PIPING, HANGERS, FITTINGS, VALVES, WATER RETURN PIPING, HANGERS, FITTINGS, VALVES, INSULATION, PUMPS, CONTROLS, WIRING, SLEEVES, BACKFLOW PREVENTERS, METERS.
   - D. ALL EXISTING FIXTURES, FAUCETS, PLUSH VALVES, ETC.
   - E. REMOVE EXISTING GAS SYSTEM, TANKS AND ALL ASSOCIATED APPARATUSES

PLUMBING DEMOLITION KEYNOTES

P(01) REMOVE EXISTING ROOF DRAIN AND ASSOCIATED STORM PIPING AND INSULATION FROM MAIN OPERATION THRU PHASE 1 DEMOLITION. STORM DRAIN SHALL BE CAPPED AT FOUNDATION WALL AND WILL BE ENCLOSED WITHIN PHASE 2 DEMOLITION



1 DEMO ROOF PLAN - AREA B- PLUMBING
1/8" = 1'-0"



PROJECT NORTH

TRUE NORTH

PD-3b

ROOF DEMOLITION PLAN- AREA A- PLUMBING

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ABBREVIATIONS

ABS	ABSOLUTE	MECH	MECHANICAL
AC	ALTERNATING CURRENT	MCC	MOTOR CONTROL CENTER
AFF	ABOVE FINISHED FLOOR	MCM	THOUSAND CIRCULAR MILLS
AHU	AIR HANDLING UNIT	MFR	MANUFACTURER
AMP, A	AMPERE	MH	MANHOLE, MOUNTING HEIGHT
APP	APPROVED	MIN	MINIMUM
APPROX	APPROXIMATE	MISC	MISCELLANEOUS
ATS	AUTOMATIC TRANSFER SWITCH	MLO	MAIN LUG ONLY
AVG	AVERAGE	MOD	MOTOR OPERATED DAMPER
BLDG	BUILDING	MTD	MOUNTED
C	CONDUIT	(N)	NEW
CB	CIRCUIT BREAKER	NA	NOT APPLICABLE
COL	COLUMN	N.C.	NORMALLY CLOSED
CONN	CONNECTION	NEUT.	NEUTRAL
CONT	CONTINUED	NIC	NOT IN CONTRACT
CONTR	CONTRACTOR	NL	NIGHT LIGHT ON 24/7
DB	DECIBEL	N.O.	NORMALLY OPEN
DEG	DEGREE	NO.	NUMBER
DIA	DIAMETER	NTS	NOT TO SCALE
DN	DOWN	OD	OUTSIDE DIAMETER
DT	DOUBLE THROW	OH	OVERHEAD
DWG	DRAWING	OHD	OVERHEAD DOOR
(E)	EXISTING	%	PERCENT
E.C.	ELECTRICAL CONTRACTOR	PB	PUSH BUTTON
EF	EXHAUST FAN	PH	PHASE-ELECTRICAL
EL	ELEVATION	PNL	PANEL
ELEC	ELECTRICAL	PVC	POLYVINYL CHLORIDE PIPE
EQ	EQUAL	(R)	REMOVE EXISTING
EQUIP	EQUIPMENT	(RE)	RELOCATE EXISTING
EWC	ELECTRIC WATER COOLER	R&D	RESEARCH & DEVELOPMENT
EWH	ELECTRIC WATER HEATER	REQ	REQUIRED
EXT	EXTERIOR	RM	ROOM
°F	DEGREE FAHRENHEIT	SCH	SCHEDULE
FACP	FIRE ALARM CONTROL PANEL	SF	SQUARE FEET
FBO	FURNISHED BY OTHERS	SPD	SURGE PROTECTION DEVICE
FD	FLOOR DRAIN	SPEC	SPECIFICATION
FDC	FIRE DEPARTMENT CONNECTION	SQ	SQUARE
FHC	FIRE HOSE CABINET	SS	SAFETY SWITCH
FIN	FINISH	ST	SINGLE THROW
FF	FINISHED FLOOR	STD	STANDARD
FLR	FLOOR	STL	STEEL
FT	FEET	STRUC	STRUCTURAL
FU,F	FUSED	SW	SWITCH
GALV	GALVANIZED	SWBD	SWITCHBOARD
GFCI	GROUND-FAULT CURRENT- INTERRUPTER	SWGR	SWITCHGEAR
GRD, GND	GROUND	TEMP	TEMPERATURE
GWH	GAS WATER HEATER	TEL	TELEPHONE
HC	HANDICAP	THERM	THERMOMETER
HP	HORSEPOWER	TYP	TYPICAL
HR	HOUR	UG	UNDERGROUND
HT	HEIGHT	UH	UNIT HEATER
HTR	HEATER	UL	UNDERWRITER'S LABORATORY
HV	HIGH VOLTAGE	U O N	UNLESS OTHERWISE NOTED
HVAC	HEATING VENTILATION AIR CONDITIONING	UTIL	UTILITY
HZ	FREQUENCY-ELECTRICAL	V	VOLTS
ID	INSIDE DIAMETER	VB	VACUUM BREAKER
ID	INDIRECT DRAIN	VERT	VERTICAL
JB	JUNCTION BOX	VFD	VARIABLE FREQUENCY DRIVE
KV	KILOVOLTS	VIF	VERIFY IN FIELD
KVA	KILOVOLT AMPERE	VPC	VIA PHOTOCELL
KW	KILOWATT	VTC	VIA TIME CLOCK
KWH	KILOWATT HOUR	W	WIRE
LF	LINEAR FEET	W/	WITH
LV	LOW VOLTAGE	WP	WEATHERPROOF
MAU	MAKE-UP AIR UNIT	W/O	WITHOUT
MAX	MAXIMUM	XFMR	TRANSFORMER
MCB	MAIN CIRCUIT BREAKER	YR	YEAR

GENERAL NOTES

1. ALL WORK IS TO CONFORM WITH THE 2017 NATIONAL ELECTRICAL CODE AND ALL APPLICABLE CODES, REGULATIONS AND STANDARDS. NOT ALL CODE REQUIREMENTS HAVE BEEN DESCRIBED IN THIS SPECIFICATION OR INDICATED ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE CODES AND INSTALL THE WORK IN ACCORDANCE WITH CODES.
2. OBTAIN AND PAY FOR ALL BUILDING PERMITS, INSPECTIONS, CONNECTION CHARGES, AND FEES.
3. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND SUPERVISION NECESSARY TO INSTALL COMPLETE OPERATING ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING ALL SITE WORK ON THE SITE AND WITHIN THE PROPOSED CONSTRUCTION AREAS TO ACCOMPLISH THE REQUIRED WORK.
4. THE CONTRACTOR IS TO BE RESPONSIBLE FOR COORDINATION OF ALL WORK ASSOCIATED WITH THE ELECTRIC UTILITY COMPANY. MAKE ALL ARRANGEMENTS IN A TIMELY FASHION FOR CONNECTION OF THE ELECTRICAL SERVICE.
5. DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE TAKEN AS A WHOLE. IF A CONFLICT OR CONTRADICTION EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT WILL APPLY. THE ARCHITECT'S AND ENGINEER'S INTERPRETATION OF THE DOCUMENTS ARE TO BE BINDING UPON THE CONTRACTOR.
6. PROVIDE SHOP DRAWINGS OF ALL EQUIPMENT FOR REVIEW PRIOR TO ORDERING. COORDINATE ALL PHYSICAL DIMENSIONS PRIOR TO SHOP DRAWING SUBMISSION.
7. IF THE CONTRACTOR ELECTS TO SUBMIT ALTERNATE EQUIPMENT, MANUFACTURERS, SYSTEMS, METHODS, OR MATERIALS NOT SPECIALLY IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK WITH OTHER TRADES AND PAY FOR ANY ADDITIONAL COSTS ASSOCIATED WITH THE SUBSTITUTION OR CHANGE.
8. THE CONTRACTOR IS TO SURVEY AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMISSION AND BECOME AWARE OF ALL CONDITIONS WHICH MAY IMPACT THE REQUIRED WORK. CONTRACTOR IS TO INCLUDE ALL ASSOCIATED COSTS (MATERIAL/ LABOR) DETERMINED TO BE REQUIRED DURING SITE INSPECTIONS. CONTRACTOR'S BID SUBMISSION IS TO BE CONSIDERED PROOF THAT THIS REQUIREMENT HAS BEEN MET.
9. FINAL LOCATIONS OF ALL DEVICES IN FINISHED SPACES ARE TO BE COORDINATED, AND APPROVED BY THE ARCHITECT/ OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
10. COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
11. PROVIDE 3/8" = 1'-0" SCALE DRAWINGS OF THE MAIN ELECTRICAL ROOM INDICATING ALL ELECTRICAL, MECHANICAL, PLUMBING, TELEPHONE, SECURITY, FIRE ALARM, AND LIFE SAFETY EQUIPMENT TO BE INSTALLED WITHIN THIS ROOM. ALL EXACT DIMENSIONS OF EQUIPMENT, PADS, ETC., ARE TO BE INDICATED. PROVIDE TWO CROSS-SECTIONS AT IMPORTANT POINTS. OBTAIN INFORMATION FROM OTHER SUB-CONTRACTORS AS NEEDED, AND APPROPRIATE. SUBMIT THE ABOVE FOR REVIEW, AND APPROVAL ALONG WITH ELECTRICAL EQUIPMENT SUBMITTALS. EQUIPMENT WILL NOT BE APPROVED PRIOR TO REVIEW OF THIS DRAWING.
12. PROVIDE ADDRESSABLE FIRE ALARM SYSTEM WITH BATTERY BACKUP, HORN/ STROBES, MANUAL PULL STATIONS, DETECTORS, STROBES, DUCT DETECTORS, REMOTE ANNUNCIATOR, ELEVATOR CONTROLS (FOR RECALL AND DE-ENERGIZING), TELEPHONE AUTO DIALER, FIRE-FIGHTER PHONES, AND ALL ASSOCIATED CONTROLS, AND APPURTENANCES.
13. PROVIDE POWER TO HVAC AND PLUMBING EQUIPMENT AS REQUIRED FOR COMPLETE, OPERATIONAL SYSTEMS.
14. THE ELECTRICAL CONTRACTOR IS TO COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE ALL INDOOR HVAC EQUIPMENT POWER WIRING FROM THE EXTERIOR CONDENSING UNIT OR HEAT PUMP AS REQUIRED BY THE SYSTEM MANUFACTURER.
15. PROVIDE LIGHTING THROUGH OUT, WITH EXTERIOR LIGHTING AT ALL EGRESS DOORS.
16. THE CONTRACTOR IS TO BE RESPONSIBLE FOR SELECTING PARTICULAR MOUNTING ARRANGEMENTS OF FIXTURES TO SUIT THE CONSTRUCTION, OR CEILING TYPE. THE CONTRACTOR OR HIS AGENT IS TO REVIEW ALL ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS TO VERIFY ALL CEILING TYPES PRIOR TO PREPARING SHOP DRAWINGS FOR SUBMISSION. IT IS NOT TO BE UNDERSTOOD THAT THE LIGHTING FIXTURE SCHEDULE ACCOUNTS FOR THE MOUNTING TYPES. CEILING TYPES ARE FREQUENTLY CHANGED AFTER THE SCHEDULE HAS BEEN COMPLETED.
17. FIXTURES AND DEVICES RECESSED IN A FIRE-RATED CEILING ARE TO BE PROVIDED WITH A FIRE-RATED ENCLOSURE THAT MAINTAINS THE FIRE RATING OF THE CEILING SYSTEM. THE INSTALLATION OF THE ENCLOSURE IS TO MEET THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. WHERE APPLICABLE, FIXTURES AND DEVICES ARE TO BE RATED FOR INSULATION CONTACT (IC) FOR HIGH-TEMPERATURE OPERATION.
18. ALL ROOMS ARE TO BE PROVIDED WITH LIGHTING CONTROLS. PROVIDE MANUAL SWITCH(ES) AND APPROPRIATE, CODE-REQUIRED LIGHTING CONTROL DEVICES, WIRING METHODS, AND COMPONENTS.
19. PROVIDE EGRESS AND EMERGENCY LIGHTING AS REQUIRED BY CODE IN ALL SPACES TO MEET REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION. ALLOW FOR TEN ADDITIONAL FIXTURES TO BE INSTALLED WHERE DIRECTED BY THE AUTHORITY HAVING JURISDICTION.
20. PROVIDE GROUNDING SYSTEM FOR FACILITY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
21. PROVIDE ROOF PENETRATIONS FOR ALL ASSOCIATED ELECTRICAL WORK.
22. ALL DEVICES ARE TO BE INSTALLED SQUARE, LEVEL, PLUMB, AND TRUE.
23. SWITCH PLATES AND OUTLET BACKBOXES ARE NOT TO BE INSTALLED BACK-TO-BACK IN ADJACENT ROOMS. BACKBOX LOCATIONSARE TO BE OFFSET A MINIMUM OF 0'-3" TO REDUCE NOISE TRANSFER. THIS APPLIES TO RECEPTACLES, LIGHTING FIXTURES, TV OUTLETS, TELEPHONE OUTLETS, AND DATA OUTLETS.
24. ALL DEVICES LOCATED ON OPPOSING SIDES OF A FIRE-RATED WALL ASSEMBLY ARE TO BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 2'-0".
25. GROUND FAULT CIRCUIT INTERRUPTERS ARE TO BE PROVIDED FOR ALL OUTDOOR RECEPTACLE CIRCUITS, RECEPTACLE CIRCUITS WITHIN TOILET AND BATHROOMS, AREAS IN CLOSE PROXIMITY TO WATER, AND WHEREVER ELSE INDICATED ON THE DRAWINGS OR AS REQUIRED BY CODE. WHILE-IN USE TYPE COVERS ARE TO BE USED FOR ALL EXTERIOR LOCATIONS.
26. PROVIDE CODE REQUIRED SIGNAGE (I.E., NEC 110.34, NEC 700.8, AND 695.4 B3).
27. PROVIDE THIRD-PARTY CERTIFICATION OF ALL PACKAGED SYSTEMS BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) IN ACCORDANCE WITH OSHA FEDERAL REGULATIONS 29CFR1910.303 AND .399 AS WELL AS PAMPHLET #70 AND NATIONAL ELECTRICAL CODE ARTICLE 90-7.
28. ALL EQUIPMENT PANELS, CONTROLS, SAFETY SWITCHES, AND DEVICES ARE TO BE PROVIDED WITH PERMANENT BLACK LAMINATED MICARTA WHITE CORE LABELS WITH 3/8" LETTERS. THIS ALSO APPLIES TO ALL CONTROLLERS, REMOTE START/ STOP PUSHBUTTONS, EQUIPMENT CABINETS, AND WHERE DIRECTED BY THE ARCHITECT AND ENGINEER. THIS REQUIREMENT DOES NOT APPLY TO INDIVIDUAL ROOM THERMOSTATS, AND LOCAL LIGHTING CONTROL DEVICES.
29. ALL THREE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AND IS TO BE MAGNETIC, ACROSS-THE-LINE WITH AUXILIARY CONTACTS. ALL SINGLE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
30. ALL WORK IS TO BE CONCEALED, UNLESS OTHERWISE INDICATED.
31. ALL EXPOSED INTERIOR WIRING, PANEL FEEDERS, HOME RUNS, AND EQUIPMENT FEEDERS ARE TO BE INSTALLED IN EMT (ELECTRICAL METALLIC TUBING). ALL EMT IS TO BE SECURELY FASTENED AT INTERVALS NOT EXCEEDING 10'-0" AND WITHIN 3'-0" OF ALL BOXES. NOTE: "EXPOSED" INDICATES ALL WIRING METHODS NOT INSTALLED WITHIN WALLS, ABOVE SUSPENDED CEILINGS, OR WITHIN A PRE-MANUFACTURED RACEWAY. ANY EXPOSED RACEWAY IN A FINISHED SPACE IS TO BE COORDINATED WITH THE ARCHITECT/ ENGINEER PRIOR TO INSTALLATION.
32. ALL CONCEALED BRANCH CIRCUIT WIRING METHODS INSTALLED ABOVE SUSPENDED CEILINGS, AND IN STUD PARTITIONS IS TO BE MC (METAL CLAD) CABLE. MC CABLE IS TO BE SECURELY FASTENED AT INTERVALS NOT EXCEEDING 4'-0", AND WITHIN 1'-0" OF ALL BOXES AND/OR FITTINGS.
33. PROPERLY INSTRUCT OWNER'S PERSONNEL IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. PROVIDE THREE INSTRUCTION AND MAINTENANCE MANUALS. SUBMIT MANUALS FOR REVIEW PRIOR TO OPERATING INSTRUCTION.
34. PROVIDE ONE SET OF ELECTRONIC AS-BUILT DRAWINGS AT COMPLETION OF WORK. SUBMIT TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.

PROJECT DEDUCT/ ADD ALTERNATES

CONTRACTOR NOTE

DRAWING LIST

Drawing List- Electrical

NUMBER	NAME	DEMO PACKAGE 07/03/24	Current Revision	Current Revision Date	Current Revisions
E-1	COVER SHEET- ELECTRICAL	-			
ED-1a	FIRST FLOOR DEMOLITION PLAN AREA A- ELECTRICAL	-			
ED-1b	FIRST FLOOR DEMOLITION PLAN AREA B- ELECTRICAL	-			
ED-2a	SECOND FLOOR DEMOLITION PLAN AREA A- ELECTRICAL	-			
ED-2b	SECOND FLOOR DEMOLITION PLAN AREA B- ELECTRICAL	-			

ELECTRICAL SYMBOLS AND ABBREVIATIONS

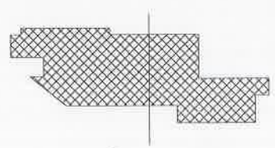
- S — SINGLE-POLE WALLBOX SWITCH
- S_3 — 3-WAY WALLBOX SWITCH
- S_4 — 4-WAY WALLBOX SWITCH
- S_D — LUMINAIRE CONTROL SYSTEM DIMMER
- $S_{T\,Z\,E\,M}$ — LUMINAIRE CONTROL SYSTEM WALLBOX CONTROL FOR TIMECLOCK PROGRAM OVERRIDE. INDICATES AREA OR ZONE OF CONTROL
- S_E — EMERGENCY SHUT-DOWN SWITCH
- S_T — SINGLE-POLE WALLBOX SWITCH WITH INTEGRAL TIMER FUNCTION.
- S_P — SINGLE-POLE WALLBOX SWITCH WITH PILOT LIGHT
- O — DUAL TECHNOLOGY, WALL BOX OCCUPANCY SENSOR WITH OFF/ AUTO OVERRIDE SWITCH
- O — DUAL TECHNOLOGY, CEILING MOUNTED OCCUPANCY SENSOR
- V — DUAL TECHNOLOGY, WALL BOX VACANCY SENSOR WITH OFF/ AUTO OVERRIDE SWITCH
- V — DUAL TECHNOLOGY, CEILING MOUNTED VACANCY SENSOR
- R XX — ROOM CONTROLLER WITH 0-10V DIMMING FOR LUMINAIRES. COORDINATE ALL POWER REQUIREMENTS WITH FINAL EQUIPMENT SELECTIONS. TAG (NONE = SINGLE ZONE): 2 = TWO ZONE; EM = PROVIDED WITH UL924 DEVICE
- R XX — 0-10V DIMMING LUMINAIRE CONTROL POWER PACK. TAG (NONE = SINGLE ZONE): 2 = TWO ZONE; 3 = THREE ZONE; EM = PROVIDED WITH UL924 DEVICE
- RECESSED, OR SURFACE MOUNTED LED LUMINAIRE CONNECTED TO NORMAL POWER. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
- RECESSED, OR SURFACE MOUNTED LED LUMINAIRE CONNECTED TO EMERGENCY POWER, OR PROVIDED WITH INTEGRAL BATTERY BACK-UP. REFER TO THE LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
- 4'-0", LENSED LED INDUSTRIAL STRIP LUMINAIRE
- LENSED, LED UNDER CABINET LUMINAIRE LENGTHS AS INDICATED ON PLANS
- A1 / 2 / a — INDICATES LUMINAIRE TYPE; INDICATES BRANCH CIRCUIT DESIGNATION; INDICATES CONTROL ZONE
- BATTERY PACK EMERGENCY LIGHTING UNIT WITH SOLID STATE CHARGER. CONNECT AHEAD OF ANY SWITCHING. REMOTE CAPABLE WHERE REQUIRED.
- REMOTE EMERGENCY LIGHTING UNIT CONNECTED TO EMERGENCY POWER, OR PROVIDED WITH INTEGRAL BATTERY BACK-UP. REFER TO THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
- EXIT SIGN LUMINAIRE: GENERATOR OR BATTERY POWERED
- WALL MOUNTED EXIT SIGN LUMINAIRE: GENERATOR OR BATTERY POWERED

- TV — TELEVISION OUTLET: COMMON AREAS: PROVIDE BACK BOX WITH 3/4"Ø BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS. MOUNT 60" ABOVE FINISHED FLOOR TO CENTER OF DEVICE OR AS DIRECTED BY THE OWNER. DWELLING UNITS: PROVIDE BACK BOX WITH 3/4"Ø BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE ABOVE STRUCTURED MEDIA ENCLOSURE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS. MOUNT 26" ABOVE FINISHED FLOOR TO TOP OF DEVICE.
- DATA OUTLET: PROVIDE BACK BOX WITH 3/4"Ø BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS.
- TELEPHONE OUTLET: W — INDICATES WALL PHONE MOUNTED 54" A.F.F. COMMON AREAS: PROVIDE BACK BOX WITH 3/4"Ø BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS. DWELLING UNITS: PROVIDE BACK BOX WITH 3/4"Ø BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE ABOVE STRUCTURED MEDIA ENCLOSURE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS.
- COMBINATION TELEPHONE/ DATA OUTLET: COMMON AREAS: PROVIDE BACK BOX WITH 1"Ø, BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS. DWELLING UNITS: PROVIDE BACK BOX WITH 1"Ø, BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE ABOVE STRUCTURED MEDIA ENCLOSURE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS.
- WAP — WIRELESS ACCESS POINT (CEILING MOUNTED) POWER-OVER-ETHERNET (NO AC POWER REQUIRED). PROVIDE (2) CAT-6 HOME-RUN TO THE MAIN DATA FRAME. PROVIDE 10'-0" PIGTAIL AT EACH LOCATION.
- XX — SECURITY/ ACCESS CONTROL DEVICE DERIVES POWER FROM THE SECURITY/ ACCESS CONTROL HEAD-END EQUIPMENT. COORDINATE ALL POWER REQUIREMENTS WITH THE SECURITY/ ACCESS CONTROL VENDOR. "XX" INDICATES DEVICE TYPE: AI = AI PHONE EQUIPMENT; CR = CARD READER; DC = DOOR CONTACT; ES = ELECTRIC DOOR STRIKE; EX = REQUEST TO EXIT; KP = KEY PAD; MD = MOTION DETECTOR; ML = MAGNETIC LOCK; RE = RFID EXCITER
- WP — CCTV CAMERA (POE). INDICATES WEATHERPROOF, EXTERIOR CAMERA

- SURFACE MOUNTED DISTRIBUTION PANEL SERVED VIA NORMAL POWER FEEDER
- SURFACE MOUNTED LIGHTING, OR POWER BRANCH CIRCUIT PANEL SERVED VIA NORMAL POWER FEEDER
- RECESSED MOUNTED LIGHTING, OR POWER BRANCH CIRCUIT PANEL SERVED VIA NORMAL POWER FEEDER
- MOTOR
- M — MOTOR RATED SWITCH (PROVIDE MANUAL MOTOR STARTER FOR OVERLOAD PROTECTION, AS REQUIRED).
- UN-FUSED DISCONNECTING MEANS
- XXAF / XXAT — FUSIBLE DISCONNECTING MEANS. XXAF = FRAME CAPACITY; XXAT = TRIP RATING
- XXAF (CB) / XXAT — ENCLOSED CIRCUIT BREAKER. XXAF = FRAME CAPACITY; XXAT = TRIP RATING
- MOTOR STARTER
- COMBINATION MOTOR STARTER/ DISCONNECTING MEANS
- +XX" A.F.F. — INDICATES HEIGHT ABOVE FINISHED FLOOR TO CENTER OF DEVICE(S)
- #2 #12 — WIRING METHOD DESIGNATION (CONDUCTOR QUANTITY AND SIZE)
- LP-1 — PANEL, AND POLE SPACE DESIGNATION (CONCEALED WIRING METHOD)
- CONCEALED BRANCH CIRCUIT WIRING METHOD
- JUNCTION BOX
- XX — DUPLEX RECEPTACLE DEVICE. TAG: C = DEVICE MOUNTED 6'-6" ABOVE COUNTER TOP; D = DEDICATED OVERCURRENT PROTECTION DEVICE; T = TAMPER RESISTANT DEVICE; U = INTEGRAL USB OUTLETS
- GFCI (GROUND-FAULT CIRCUIT-INTERRUPTER) DUPLEX RECEPTACLE DEVICE FOR PERSONAL PROTECTION
- SWITCHED (BOTTOM OUTLET) DUPLEX RECEPTACLE DEVICE. INDICATES CORRESPONDING CONTROL DEVICE
- SINGLE RECEPTACLE DEVICE FOR EQUIPMENT
- DOUBLE DUPLEX RECEPTACLE DEVICE
- SPECIAL RECEPTACLE DEVICE (COORDINATE NEMA CONFIGURATION WITH FINAL EQUIPMENT SELECTIONS)
- WX / OR FX — POWER, CCTV, OR CATV. W = WALL SOURCE; F = FLOOR SOURCE; X = 2, 3, OR 4 GANG BOX
- WX / OR FX — FLUSH MOUNTED, ADJUSTABLE FLOOR BOX WITH POWER, 1G POWER, AND VOICE/ DATA OUTLETS. W = WALL SOURCE; F = FLOOR SOURCE; X = 2, 3, OR 4 GANG BOX
- PUSH-BUTTON DEVICE
- ON/ OFF PUSH-BUTTON DEVICE
- THREE FUNCTION PUSH-BUTTON DEVICE (UP/ DOWN/ STOP)
- VOLUME CONTROL DEVICE: PROVIDE BACK BOX WITH 3/4"Ø BUSHED CONDUIT WITH PULL-STRING TO ACCESSIBLE CEILING SPACE. DEVICES, WIRING METHODS, AND TERMINATIONS BY OTHERS. MOUNT 48" ABOVE FINISHED FLOOR TO CENTER OF DEVICE OR AS DIRECTED BY THE OWNER.
- M — MICROPHONE OUTLET

PREVENT SECURITY SYSTEM SYMBOLS

- IC-AV — AIPHONE AUDIO/VIDEO DOOR STATION
- IC-A — AIPHONE AUDIO DOOR STATION
- C — HIKVISION INDOOR FIXED CAMERA
- C WP — HIKVISION OUTDOOR FIXED CAMERA
- C E — HIKVISION ELEVATOR CAMERA
- C — HIKVISION INDOOR 360° CAMERA
- C WP — HIKVISION OUTDOOR 360° CAMERA
- CR — CARD READER, ACCENTURA UPDATER
- DA — DOOR ACTUATOR
- AD — AIPHONE DESK STATION/DOOR ACTUATOR
- S — VISUAL INDICATOR- STROBE
- W — WIRELESS YALE NEXTTOUCH LOCK



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COVER SHEET- ELECTRICAL

E-1

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ELECTRICAL DEMOLITION NOTES:

1. ELECTRICAL CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS IN FIELD PRIOR ANY WORK.
2. REMOVE ALL LIGHTING DEVICES, LUMINAIRES AND CONTROL DEVICES, AND ALL ASSOCIATED WIRING METHODS IN AREAS OF RENOVATION THAT ARE NOT REQUIRED FOR EGRESS, UNLESS OTHERWISE NOTED.
3. REMOVE ELECTRICAL CIRCUITRY BACK TO SOURCE OF POWER (PANEL, ACTIVE CIRCUIT, RESTORE ALL CIRCUITRY INTERRUPTED BY DEMOLITION WORK TO MAINTAIN CIRCUIT CONTINUITY.
4. ALL OVERCURRENT PROTECTION DEVICES THAT BECOME "SPARE" AS A RESULT OF DEMOLITION WORK ARE TO BE LABELED SET IN THE "OFF" POSITION AND LABELED "SPARE".
5. ALL PANELBOARDS AFFECTED BY RENOVATION WORK ARE TO BE PROVIDED WITH UPDATED DIRECTORIES.
6. FIRE ALARM DEVICES ARE TO REMAIN OPERATIONAL AND ARE TO BE PROPERLY PROTECTED DURING CONSTRUCTION. REINSTALL EXISTING DEVICES IN NEW CEILINGS.
7. ALL POWER SHUTDOWNS ARE TO BE SCHEDULED AND COORDINATED WITH OWNER.
8. ALL OPENINGS IN THE ENVELOPE LEFT FROM THE REMOVAL OF EXISTING DEVICES ARE TO BE PATCHED TO MAINTAIN THE INTEGRITY OF THE ENVELOPE.
9. THE INTENT IS FOR THE SECURITY AND FIRE ALARM SYSTEMS TO REMAIN ACTIVE DURING DEMOLITION.
10. THE INTENT IS FOR ALL ADJACENT AREAS TO REMAIN ENERGIZED DURING CONSTRUCTION. CONTRACTOR IS TO MODIFY ALL EXISTING WIRING AS NEEDED TO FACILITATE THIS INTENT.
11. THE INTENT IS TO REMOVE ALL ELECTRICAL WIRING DEVICES WHICH INTERFERE WITH NEW CONSTRUCTION, RENOVATION, OR DEMOLITION WORK WHETHER SPECIFICALLY IDENTIFIED OR NOT.

ELECTRICAL DEMOLITION KEYNOTES (E) NOTED THUS

ED1 PANEL IS TO REMAIN THROUGH FIRST PHASE OF DEMOLITION

1 FIRST FLOOR DEMOLITION PLAN- AREA A- ELECTRICAL
SCALE: 1/16" = 1'-0"

PROJECT NORTH

TRUE NORTH

ED-1a	FIRST FLOOR DEMOLITION PLAN AREA A-ELECTRICAL

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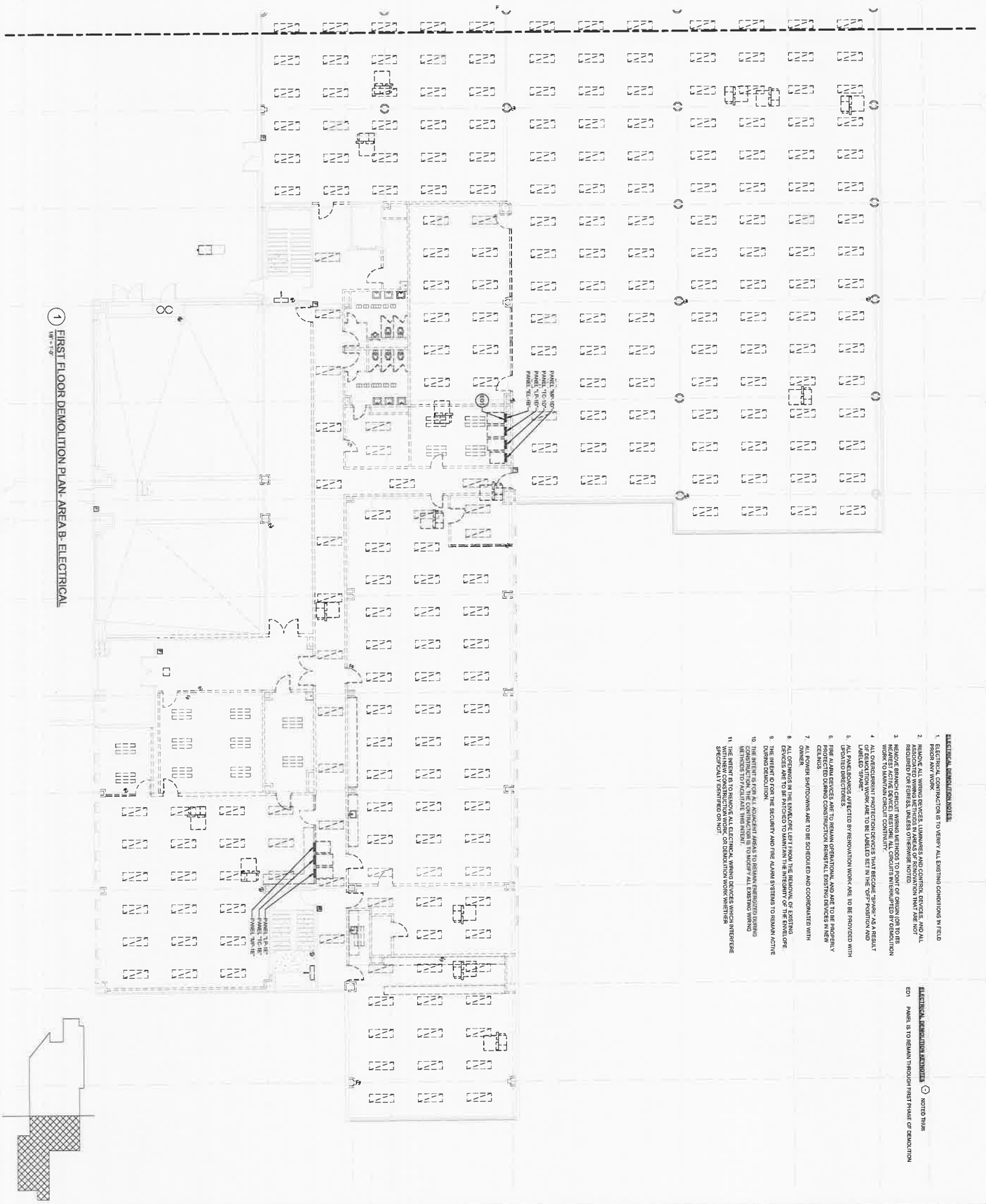
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1 FIRST FLOOR DEMOLITION PLAN: AREA B - ELECTRICAL
1/8" = 1'-0"

ELECTRICAL DEMOLITION NOTES:

1. ELECTRICAL CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS IN FIELD PRIOR ANY WORK.
2. REMOVE ALL LIGHTING FIXTURES, DEVICES, LUMINAIRES AND CONTROL DEVICES, AND ALL ASSOCIATED WIRING METHODS IN AREAS OF RENOVATION THAT ARE NOT REQUIRED FOR EGRESS, UNLESS OTHERWISE NOTED.
3. REMOVE BRANCH CIRCUIT WIRING BACK TO POINT OF ORIGIN OR NEXT DEVICE IN CIRCUIT WHERE WIRING IS INDICATED TO BE REMOVED BY DEMOLITION WORK TO MAINTAIN CIRCUIT CONTINUITY.
4. ALL OVERCURRENT PROTECTION DEVICES THAT BECOME "SPARE" AS A RESULT OF DEMOLITION WORK ARE TO BE LABELED SET IN THE "OFF" POSITION AND LABELED "SPARE".
5. ALL PANELBOARDS AFFECTED BY RENOVATION WORK ARE TO BE PROVIDED WITH UPDATED DIRECTORIES.
6. FIRE ALARM DEVICES ARE TO REMAIN OPERATIONAL AND ARE TO BE PROPERLY PROTECTED DURING CONSTRUCTION REMOVAL EXISTING DEVICES IN NEW CEILINGS.
7. ALL POWER SHUTDOWNS ARE TO BE SCHEDULED AND COORDINATED WITH OWNER.
8. ALL CONDUCTORS IN THE ENVELOPE LEFT FROM THE REMOVAL OF DEVICES, EQUIPMENT, ETC. SHALL BE REMOVED BACK TO THE SOURCE OF THE ENVELOPE.
9. THE INTENT IS FOR THE SECURITY AND FIRE ALARM SYSTEMS TO REMAIN ACTIVE DURING DEMOLITION.
10. THE INTENT IS FOR ALL ADJACENT AREAS TO REMAIN ENERGIZED DURING CONSTRUCTION. CONTRACTOR IS TO MODIFY ALL EXISTING WIRING METHODS TO ACCURATE THIS INTENT.
11. THE INTENT IS TO REMOVE ALL ELECTRICAL WIRING DEVICES WHICH INTERFERE WITH NEW CONSTRUCTION WORK, OR DEMOLITION WORK WHETHER SPECIFICALLY IDENTIFIED OR NOT.

ELECTRICAL DEMOLITION KEYNOTES (1) NOTED THUS

ED1 PANEL IS TO REMAIN THROUGH FIRST PHASE OF DEMOLITION

PROJECT NORTH

TRUE NORTH

ED-1b

FIRST FLOOR DEMOLITION PLAN AREA B-ELECTRICAL		
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ELECTRICAL DEMOLITION NOTES:

1. ELECTRICAL CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS IN FIELD PRIOR ANY WORK.
2. REMOVE ALL DEVICES, LUMINAIRES AND CONTROL DEVICES, AND ALL ASSOCIATED WIRING METHODS IN AREAS OF RENOVATION THAT ARE NOT REQUIRED FOR EXISTING UNLESS OTHERWISE NOTED.
3. REMOVE BRANCH CIRCUIT WIRING METHODS TO POINT OF ORIGIN FOR TO BE ABANDONED CIRCUITS. WHERE CIRCUITS ARE TO BE REUSED BY NEW WORK TO MAINTAIN CIRCUIT CONTINUITY.
4. ALL OVERCURRENT PROTECTION DEVICES THAT BECOME "SPARE" AS A RESULT OF DEMOLITION OR NEW WORK ARE TO BE LABELED SET IN THE "OFF" POSITION AND LABELED "SPARE".
5. ALL PANELBOARDS AFFECTED BY RENOVATION WORK ARE TO BE PROVIDED WITH UPDATED DIRECTORIES
6. FIRE ALARM DEVICES ARE TO REMAIN OPERATIONAL AND ARE TO BE PROPERLY PROTECTED DURING CONSTRUCTION. REINSTALL EXISTING DEVICES WHERE CEILINGS
7. ALL POWER SHUTDOWNS ARE TO BE SCHEDULED AND COORDINATED WITH OWNER
8. ALL CIRCUITS TO BE DEVICES LEFT FROM THE REMOVAL OF EXISTING EQUIPMENT SHALL BE PROVIDED TO MAINTAIN THE INTEGRITY OF THE SYSTEM.
9. THE INTENT IS FOR THE SECURITY AND FIRE ALARM SYSTEMS TO REMAIN ACTIVE DURING DEMOLITION
10. THE INTENT IS FOR ALL ADJACENT AREAS TO REMAIN ENERGIZED DURING CONSTRUCTION. CONTRACTOR TO COORDINATE WITH OWNER AND METHODS TO FACILITATE THIS INTENT
11. THE INTENT IS TO REMOVE ALL ELECTRICAL WIRING DEVICES WHICH INTERFERE WITH NEW CONSTRUCTION WORK OR DEMOLITION WORK WHETHER SPECIFICALLY IDENTIFIED OR NOT.

ELECTRICAL DEMOLITION KEYNOTES (X) KEYED THUS

E01 PANEL IS TO REMAIN THROUGH FIRST PHASE OF DEMOLITION

(1) SECOND FLOOR DEMOLITION PLAN- AREA A- ELECTRICAL
1/8" = 1'-0"

PANEL "EC-2A"
PANEL "MP-2A"
PANEL "LP-2A"

PANEL "EC-2B"
PANEL "MP-2B"
PANEL "LP-2B"

PROJECT NORTH

TRUE NORTH

ED-2a

SECOND FLOOR DEMOLITION PLAN AREA A- ELECTRICAL		
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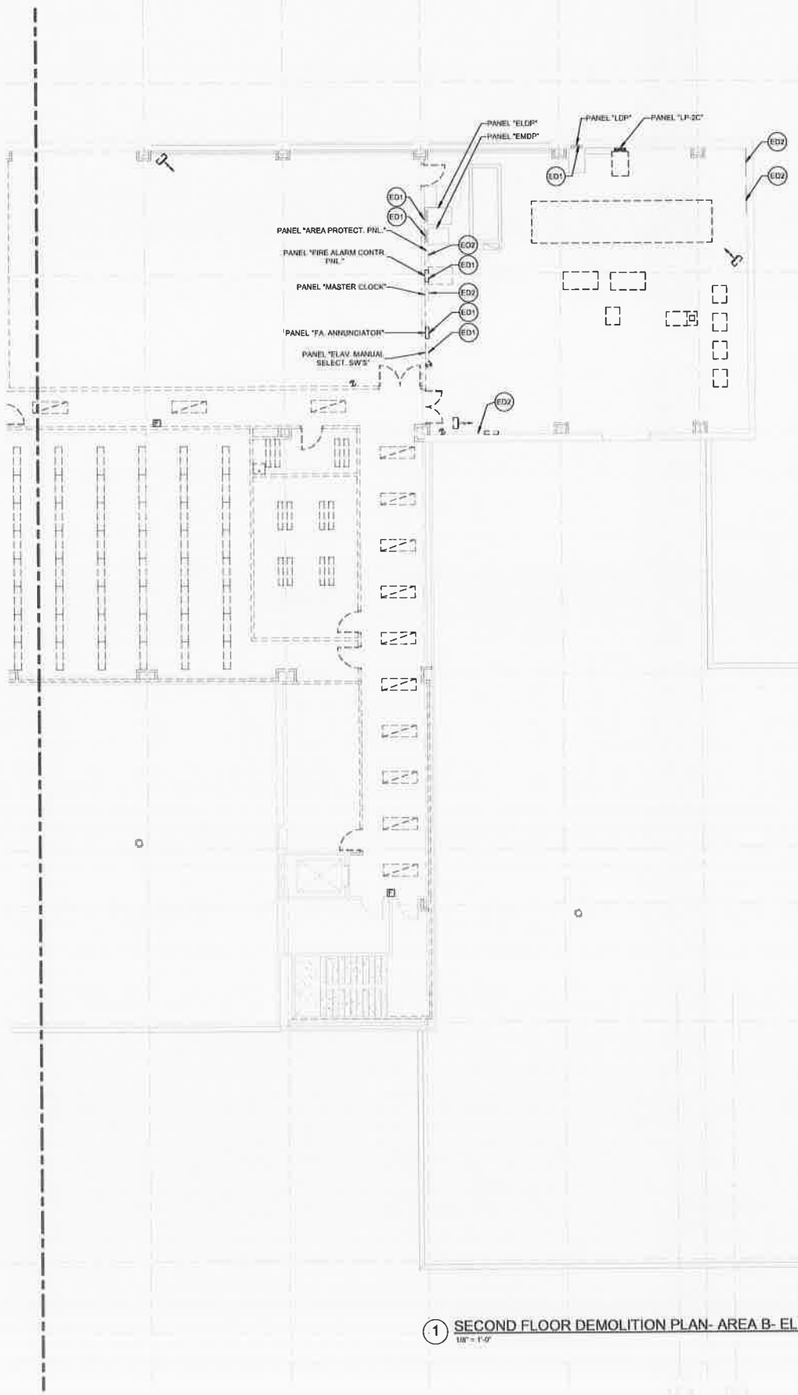
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1 SECOND FLOOR DEMOLITION PLAN- AREA B- ELECTRICAL
1/8" = 1'-0"

ELECTRICAL DEMOLITION NOTES:

1. ELECTRICAL CONTRACTOR IS TO VERIFY ALL EXISTING CONDITIONS IN FIELD PRIOR ANY WORK.
2. REMOVE ALL WIRING DEVICES, LUMINARES AND CONTROL DEVICES, AND ALL ASSOCIATED WIRING METHODS IN AREAS OF RENOVATION THAT ARE NOT REQUIRED FOR EGRESS, UNLESS OTHERWISE NOTED.
3. REMOVE BRANCH CIRCUIT WIRING METHODS TO POINT OF ORIGIN (OR TO ITS NEAREST ACTIVE DEVICE) RESTORE ALL CIRCUITS INTERRUPTED BY DEMOLITION WORK TO MAINTAIN CIRCUIT CONTINUITY.
4. ALL OVERCURRENT PROTECTION DEVICES THAT BECOME "SPARE" AS A RESULT OF DEMOLITION WORK ARE TO BE LABELED SET IN THE "OFF" POSITION AND LABELED "SPARE."
5. ALL PANELBOARDS AFFECTED BY RENOVATION WORK ARE TO BE PROVIDED WITH UPDATED DIRECTORIES.
6. FIRE ALARM DEVICES ARE TO REMAIN OPERATIONAL AND ARE TO BE PROPERLY PROTECTED DURING CONSTRUCTION. REINSTALL EXISTING DEVICES IN NEW CEILINGS.
7. ALL POWER SHUTDOWNS ARE TO BE SCHEDULED AND COORDINATED WITH OWNER.
8. ALL OPENINGS IN THE ENVELOPE LEFT FROM THE REMOVAL OF EXISTING DEVICES ARE TO BE PATCHED TO MAINTAIN THE INTEGRITY OF THE ENVELOPE.
9. THE INTENT ID FOR THE SECURITY AND FIRE ALARM SYSTEMS TO REMAIN ACTIVE DURING DEMOLITION.
10. THE INTENT IS FOR ALL ADJACENT AREAS TO REMAIN ENERGIZED DURING CONSTRUCTION. THE CONTRACTOR IS TO MODIFY ALL EXISTING WIRING METHODS TO FACILITATE THIS INTENT.
11. THE INTENT IS TO REMOVE ALL ELECTRICAL WIRING DEVICES WHICH INTERFERE WITH NEW CONSTRUCTION WORK, OR DEMOLITION WORK WHETHER SPECIFICALLY IDENTIFIED OR NOT.

ELECTRICAL DEMOLITION KEYNOTES ⊖ NOTED THUS

ED1 PANEL IS TO REMAIN THROUGH FIRST PHASE OF DEMOLITION
ED2 VERIFY PANEL IS NOT CONNECTED TO KEY SYSTEMS TO REMAIN

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SECOND FLOOR DEMOLITION PLAN AREA B- ELECTRICAL

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ED-2b

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APPENDIX C

Roofing Summary of Key Provisions of
OSHA And EPA

Summary of Key Provisions of the OSHA and EPA Asbestos Standards

Exempt Operations	The following are exempt from EPA's NESHAP but not the OSHA standard: (i) residential structures with ≤ 4 dwelling units; (ii) removal of nonfriable ACRM using proper work practices [a] other than power roof cutters; (iii) removal of ≤ 5,580 ft² of nonfriable BUR using a power roof cutter; and (iv) removal of ≤ 160 ft² of material that is friable or contaminated with ACRM-related dust or debris.	
Regulatory Requirement	**Nonfriable (Intact) Incidental ACRM (Flashings)**	**Removal or Repair of Primary ACRM (OSHA) "Class II" Operations**
Competent Person Supervision	No, but the condition of the material must be inspected prior to and, as needed, during the job.	**Yes**, primary functions include initial inspection of the condition of the ACRM, setup of regulated area, and making exposure assessments; inspections of the ACRM operations are required as needed to ensure compliance and at reasonable employee request; supervisor need not be onsite for all ACRM work except for operations that are subject to EPA's NESHAP.
Initial Exposure Assessment	No	**Yes**, competent person may make negative exposure assessment (NEA) provided material is nonfriable (intact), worker training requirements are met, and required roof removal methods are used; otherwise NEA can be made only on the basis of: (i) "historical" or "objective" data prior to start of job or (ii) on-the-job exposure monitoring.
Exposure Monitoring	No	**No**, if NEA made before start of job; otherwise, representative daily monitoring required until compliance with the new OSHA permissible exposure limits (0.1 fibers per cubic centimeter, eight-hour time-weighted average; 1.0 f/cc, 30-minute excursion) is demonstrated.
Regulated Areas	No	**Yes**, demarcation requirement can be met by posting warning signs at points of access to the roof; neither demarcation nor warning signs are required where NEA is made and no untrained workers have access.
Wet Methods	No	**No**, if material is nonfriable (intact) and proper roof removal methods* are used, except that the cutting blade of power roof cutters must be continuously misted inside the shroud; **Yes**, for all ACRM and related dust and debris, if the material is friable (nonintact).
HEPA Dust Collector and/or Vacuums	No	**No**, if the material is nonfriable (intact) and proper roof removal methods* are used, except for dust and debris created by power roof cutters on aggregate-surface roofs (gentle sweeping and/or wet wiping permitted for collection of power roof cutter dust and debris on intact smooth-surface roofs); **Yes**, for all ACRM-related dust and debris, if the material is friable (nonintact).
Bagging/ Wrapping/ Labeling of Removed ACRM	No	**No**, if material is nonfriable (intact) and proper roof removal methods* are used, except for dust and debris created by a power roof cutter; **Yes**, for all ACRM and related dust and debris, if the material is friable (nonintact).
Prescribed Lowering Methods	Yes, all removed ACRM (see adjacent block)	**Yes**, all removed ACRM, including related dust/debris, must be lowered by prescribed methods (i.e., by hand, crane, hoist or enclosed, dust-tight chute).
Roof Level Air Intakes Isolated or Shut Down	No	**Yes**, for removals; **No**, for repairs.
Respirators and Protective Clothing	No	**No**, if an NEA was produced before start of job; otherwise required unless or until an NEA is made based on exposure monitoring.

Summary of Key Provisions of the OSHA and EPA Asbestos Standards

Regulatory Requirement	Nonfriable (Intact) Incidental ACRM (Flashings)	Removal or Repair of Primary ACRM (OSHA) "Class II" Operations
Equipment Area	No	**No**, if an NEA was produced before start of job; otherwise required unless or until an NEA is made based on exposure monitoring.
Smoking Ban	No	Yes, in areas where there is exposure to asbestos.
Notifications	No	**No**, to OSHA. Otherwise required as follows: (i) to EPA prior to start of job (unless exempt from EPA's NESHAP) and (ii) to employees, building owners and other employers on site, when and as applicable.
Worker Training	Yes, baseline training; no minimum duration; refresher courses not required.	**Yes**, baseline worker training under § (k)(9)(viii) of the OSHA standard plus "hands-on" training on proper removal methods; eight-hour minimum for initial training; annual refresher courses required (duration unspecified, but two-hour, "hands-on" refresher training recommended by OSHA).
Supervisor (Competent Person) Training	No, but competent person must be "know-ledgeable."	**Yes**, AHERA five-day supervisor training course or equivalent, but shorter EPA- or state-approved roofing-specific courses acceptable; annual refresher training required (duration unspecified, but AHERA criteria require eight-hour refresher training).
Medical Surveillance	No	**Yes**, for each worker who: (i) works on primary ACRM removal or repair jobs for 30 or more days per year, excluding days involving one hour or less of such work if required roof removal methods are used or (ii) is required to wear a negative-pressure respirator.
Disposal of ACRM as Regulated Asbestos Waste	No	**No**, if material is nonfriable (intact) and proper roof removal methods* are used, except for dust and debris created by power roof cutter; **Yes**, for all ACRM and related dust and debris, if material is friable (nonintact), unless exempt from EPA's NESHAP.
Record keeping	No	**Yes**, for any exposure monitoring, "objective data," training, medical surveillance, or regulated waste disposal records, and for jobs where wetting is not used due to freezing temperatures (unless exempt from EPA's NESHAP).

Note:

* Proper roof removal methods include (i) required methods as summarized in this table and (ii) the use of methods that have been found not to render ACRM friable (nonintact). Proper manual methods include the use of spud, spade, flat-blade or slicing tools (such as axes, mattocks, pry bars, crow bars, spud bars, shovels, flat-blade knives and utility knives) to slice, strip off, shear unde, or pry up the roofing material. Sanding, grinding, abrading or cutting with serrated-edge hand tools, such as handsaws, are prohibited. Proper removal methods also include careful handling and stacking of removed materials, without throwing or intentionally breaking or crushing the materials. Proper mechanical methods include power removers, "power slicers" and "power plows." Power slicers and power plows, though not presently available commercially, can be fabricated to slice through asbestos-containing BUR felts. When used, EPA's NESHAP is not applicable, as long as the ACRM is nonfriable (intact).

Pennsylvania American Water

Flow Test Report

Location: **Norristown Public Library Test #1**

Swede St @ Powell St, Norristown

Date: **10/25/2024**

Flow Hydrant #:	**HNT-34** Swede @ Basin	Residual Hydrant #:	**HNT-766** Spruce @ Swede	**HNT-177** Powell @ Spruce	**HNT-176** Powell @ Basin
Static Pressure (psi)	70		55	51	60
Residual Pressure (psi)	17		30	50	57

Flow (gpm): 600

Nozzle Size: 2 1/2"

Approx Gallons Flowed: 9000 Gallons

Test Date 10-30-24 Test Time 9 (am) / pm

Pressure Gradient/Tank Norristown Main Gradient (Dekalb Tanks)

Tank Level @ Test Start

Test performed by: J. Pierce, J. Taphorn, M. Proietti, A. Witter, B. Mazierz, M. Prendergast

Remarks:

Disclaimer: Pennsylvania American Water makes no assurances that the results from the above test are available at all times.

Security: For security reasons this form is for the sole use of the parties mentioned above. Do not forward this form to other parties without written consent from Pennsylvania American Water.

Pennsylvania American Water

Flow Test Report

Location: **Norristown Public Library Test #2**

Swede St @ Powell St, Norristown

Date: **10/25/2024**

	Flow Hydrant #:	Residual Hydrant #:		
	HNT-176 Powell @ Basin	**HNT-766** Spruce @ Swede	**HNT-177** Powell @ Spruce	**HNT-34** Swede @ Basin
Static Pressure (psi)	60	55	51	70
Residual Pressure (psi)	40	55	48	64

Flow (gpm): 1000

Nozzle Size: 2½"

Approx Gallons Flowed: ~~2475~~ 5000 Gallons

Test Date 10-30-24 Test Time 9:40 (am) / pm

Pressure Gradient/Tank Norristown Main Gradient (Dekalb Tanks)

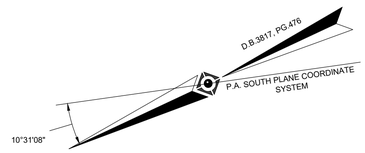
Tank Level @ Test Start

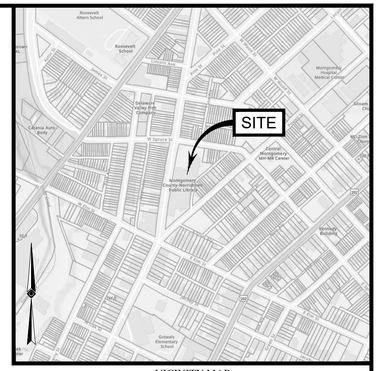
Test performed by: J.Pierce, J.Taphorn, M.Proietto, A.Witter, B.Mazzara, M.Prendergast

Remarks:

Disclaimer: Pennsylvania American Water makes no assurances that the results from the above test are available at all times.

Security: For security reasons this form is for the sole use of the parties mentioned above. Do not forward this form to other parties without written consent from Pennsylvania American Water.

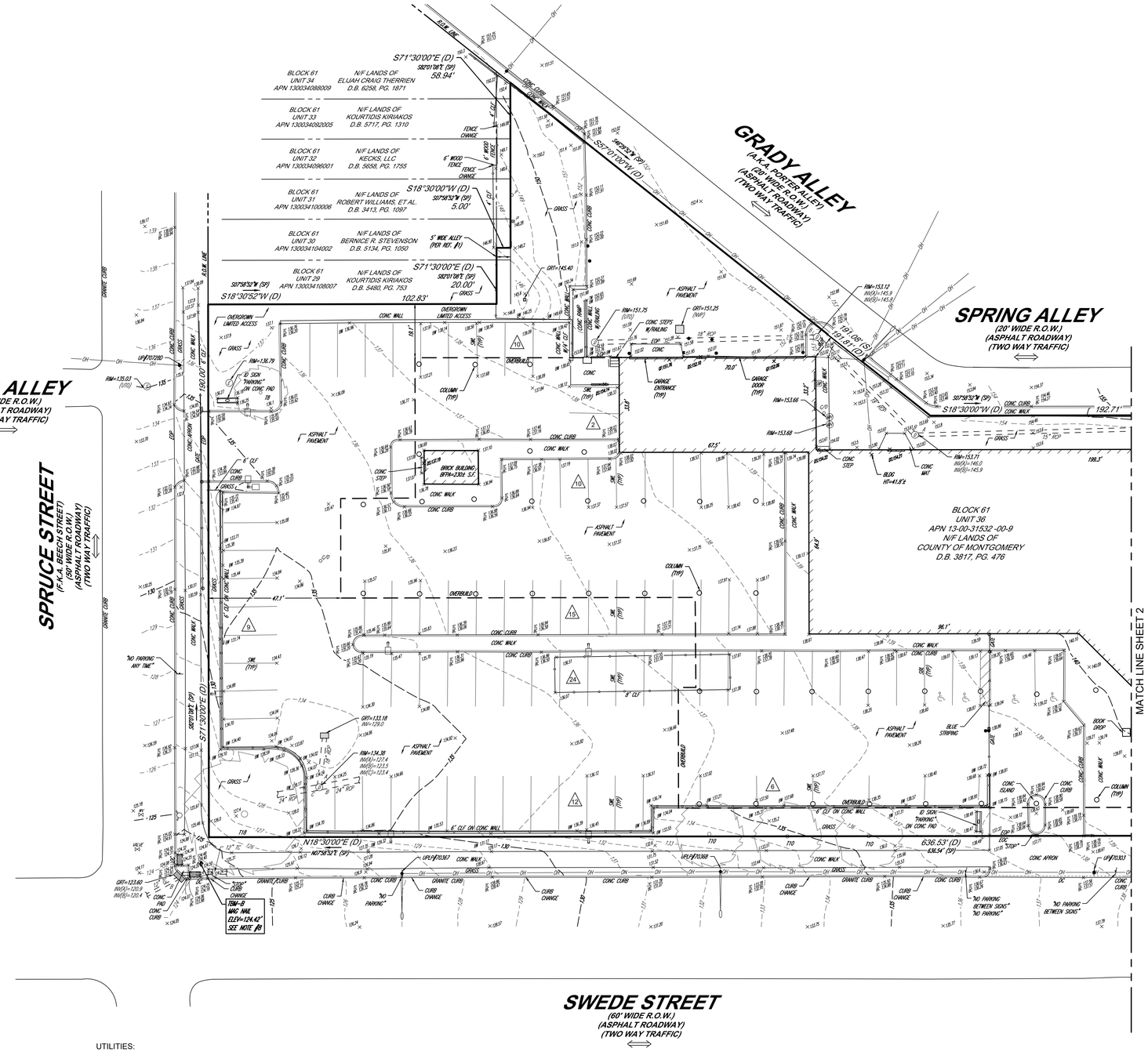




VICINITY MAP
NOT TO SCALE

LEGEND

- 124 / 125 — EXISTING CONTOUR
- × 123.45 — EXISTING SPOT ELEVATION
- × TC 123.45 — EXIST. TOP OF CURB ELEVATION
- × BC 122.95 — EXIST. BOTTOM OF CURB ELEVATION
- × TW 123.45 — EXIST. TOP OF WALL ELEVATION
- × BW 122.95 — EXIST. BOTTOM OF WALL ELEVATION
- × FF 123.45 — EXIST. FINISHED FLOOR ELEVATION
- × DS 123.45 — EXIST. DOOR SILL ELEVATION
- × GF 123.45 — EXIST. GARAGE FLOOR ELEVATION
- OH — OVERHEAD WIRES
- DEPRESSED CURB
- HYDRANT
- FIRE DEPARTMENT CONNECTION (F.D.C.)
- WATER VALVE
- ELECTRIC BOX
- GAS METER
- GAS VALVE
- UNKNOWN VALVE
- ELECTRIC MANHOLE
- UNKNOWN MANHOLE
- SANITARY/SEWER MANHOLE
- TELEPHONE MANHOLE
- CLEAN OUT
- POST
- GUY WIRE
- UP / UPLPSP — UTILITY POLE / UTILITY POLE/LIGHT POLE/SOLAR PANEL
- TRAFFIC SIGNAL
- PAINTED HANDICAPPED
- DETECTABLE WARNING PAD
- METAL COVERS
- SIGN
- BOLLARD
- U-BOLLARD
- GATE POST
- FLAG POLE
- AREA LIGHT
- DECIDUOUS TREE & TRUNK SIZE
- CONIFEROUS TREE & TRUNK SIZE
- 10 — PARKING SPACE COUNT
- BFPA — BUILDING FOOTPRINT AREA
- BLDG — BUILDING
- CLF — CHAIN LINK FENCE
- DC — DEPRESSED CURB
- EOC — EDGE OF CONC.
- EOP — EDGE OF PAVEMENT
- HT — HEIGHT
- MC — METAL COVER
- SWL — SOLID WHITE LINE
- TYP — TYPICAL
- EVIDENCE FOUND
- (D) — DEED DIMENSION
- (SP) — STATE PLANE
- (S) — SURVEY DIMENSION



NOTES:

1. PROPERTY KNOWN AS APN 13-00-31532 -00-9 AS IDENTIFIED ON THE TAX MAP OF BOROUGH OF NORRISTOWN, MONTGOMERY COUNTY, COMMONWEALTH OF PENNSYLVANIA.
2. AREA = 94,779 SQUARE FEET OR 2.176 ACRES.
3. LOCATION OF UNDERGROUND UTILITIES ARE APPROXIMATE. LOCATIONS AND SIZES ARE BASED ON UTILITY MARK-OUTS, ABOVE GROUND STRUCTURES THAT WERE VISIBLE & ACCESSIBLE IN THE FIELD, AND THE MAPS AS LISTED IN THE REFERENCES AVAILABLE AT THE TIME OF THE SURVEY. AVAILABLE ASSBUILT PLANS AND UTILITY MARKOUT DOES NOT ENSURE MAPPING OF ALL UNDERGROUND UTILITIES AND STRUCTURES. BEFORE ANY EXCAVATION IS TO BEGIN, ALL UNDERGROUND UTILITIES SHOULD BE VERIFIED AS TO THEIR LOCATION, SIZE AND TYPE BY THE PROPER UTILITY COMPANIES. CONTROL POINT ASSOCIATES, INC. DOES NOT GUARANTEE THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA EITHER IN SERVICE OR ABANDONED.

   A QUALITY LEVEL SYSTEM IS UTILIZED TO IDENTIFY THE SOURCE OF THE UNDERGROUND UTILITY INFORMATION. THE METHOD OF DETERMINATION IS BASED ON CONTRACTUAL AGREEMENT WITH THE CLIENT AND IS DEPICTED ON THE SURVEY BY THE LINE TYPES SHOWN IN THE DRAWING LEGEND. FOR REFERENCE, THE QUALITY LEVELS ARE AS FOLLOWS:

   QUALITY LEVEL D - UTILITIES SHOWN BASED UPON REFERENCE MAPPING OR ORAL HISTORY. NOT FIELD VERIFIED.

   QUALITY LEVEL C - LOCATION OF UTILITY SURFACE FEATURES SUPPLEMENTS REFERENCE MAPPING. INCLUDES MARKOUT BY OTHERS.

   QUALITY LEVEL B - UTILITY LOCATION DATA IS COLLECTED THROUGH GEOPHYSICAL SENSING TECHNOLOGY TO SUPPLEMENT SURFACE FEATURES AND OR REFERENCE MAPPING. INCLUDES MARKOUT BY CONTROL POINT ASSOCIATES, INC.

   QUALITY LEVEL A - HORIZONTAL AND VERTICAL LOCATION OF UTILITIES ARE OBTAINED USING VACUUM EQUIPMENT EXCAVATION OR OTHER METHODS TO EXPOSE THE UTILITY. LOCATION SHOWN AT SINGLE POINT WHERE EXCAVATION OCCURRED UNLESS UTILITY WAS LOCATED PRIOR TO FILLING.

   ALL FOUR TYPES MAY NOT BE PRESENT ON THIS SURVEY.
4. THIS PLAN IS BASED ON INFORMATION PROVIDED BY THE CLIENT, A SURVEY PREPARED IN THE FIELD BY CONTROL POINT ASSOCIATES, INC., AND OTHER REFERENCE MATERIAL AS LISTED HEREON.
5. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND IS SUBJECT TO THE RESTRICTIONS, COVENANTS AND/OR EASEMENTS THAT MAY BE CONTAINED THEREIN. IT IS STRONGLY RECOMMENDED THAT A COMPLETE TITLE SEARCH BE PROVIDED TO THE SURVEYOR FOR REVIEW PRIOR TO THE PLACEMENT OF OR ALTERATION TO IMPROVEMENTS ON THE PROPERTY.
6. EXISTING FIRM: BY GRAPHIC PLOTTING ONLY PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% CHANCE FLOODPLAIN.) PER MAP REF #2.
7. THE EXISTENCE OF UNDERGROUND STORAGE TANKS, IF ANY, WAS NOT KNOWN AT THE TIME OF THE FIELD SURVEY.
8. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED ON GPS OBSERVATIONS UTILIZING THE KEYSTONE VRS NETWORK (KEYNETGPS).
   TEMPORARY BENCH MARKS SET;
   TBM-A: MAG NAIL SET IN CONCRETE WALK, ELEVATION= 145.10' (SHEET 2)
   TBM-B: MAG NAIL SET IN CONCRETE WALK, ELEVATION= 124.42' (SHEET 1)

   PRIOR TO CONSTRUCTION IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE BENCHMARKS ILLUSTRATED ON THIS SKETCH HAVE NOT BEEN DISTURBED AND THEIR ELEVATIONS HAVE BEEN CONFIRMED. ANY CONFLICTS MUST BE REPORTED PRIOR TO CONSTRUCTION.
9. THE OFFSETS SHOWN ARE NOT TO BE USED FOR THE CONSTRUCTION OF ANY STRUCTURE, FENCE, PERMANENT ADDITION, ETC.
10. THERE ARE A TOTAL OF 88 DESIGNATED PARKING SPACES, INCLUDING 4 HANDICAP SPACES.
11. BUILDING DIMENSIONS SHOWN HEREON ARE MEASURED AT GROUND LEVEL OF BUILDING EXTERIOR.

REFERENCES:

1. THE OFFICIAL TAX ASSESSOR'S MAP OF BOROUGH OF NORRISTOWN, MONTGOMERY COUNTY, COMMONWEALTH OF PENNSYLVANIA, SHEET #13-61.
2. MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM, FIRM, FLOOD INSURANCE RATE MAP, NORTHAMPTON COUNTY, PENNSYLVANIA, (ALL JURISDICTIONS), PANEL 329 OF 355", MAP NUMBER 42095C0329E, EFFECTIVE DATE: JULY 16, 2014.
3. MAP ENTITLED "SITE PLAN" SHEET NO. A-1, DATED 4-16-1974, PREPARED BY EWING COLE ERDMAN & EUBANK.

UTILITIES:

THE FOLLOWING COMPANIES WERE NOTIFIED BY PENNSYLVANIA ONE CALL SYSTEM, INC. (1-800-242-1776) AND REQUESTED INFORMATION REGARDING THE LOCATION OF UNDERGROUND FACILITIES AFFECTING AND SERVICING THIS SITE. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON IS BASED UPON THE UTILITY COMPANIES RESPONSE TO THIS REQUEST.
SERIAL NUMBER(S): 20242410560

UTILITY COMPANY	PHONE NUMBER
NORRISTOWN MUNICIPALITY OF	610-324-6604
COMCAST	484-368-4391
NORRISTOWN MUNICIPAL WASTE AUTHORITY	610-270-3190
PECO AN EXELON COMPANY C/O USIC	484-681-5720
PENNSYLVANIA AMERICAN WATER	610-292-3575
VERIZON BUSINESS FORMERLY MCI	919-414-2782

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1-800-242-1776
STOP! CALL BEFORE YOU DIG!

THE COMMONWEALTH OF PENNSYLVANIA REQUIRES NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

I HEREBY CERTIFY THAT THIS SURVEY HAS BEEN PERFORMED IN THE FIELD UNDER MY SUPERVISION, AND TO THE BEST OF MY KNOWLEDGE, BELIEF, AND INFORMATION, THAT THIS SURVEY HAS BEEN PERFORMED IN ACCORDANCE WITH CURRENTLY ACCEPTED ACCURACY STANDARDS.

NOT VALID UNLESS SEALED IN RED INK

10-04-2024
DATE

JAMES C. WEED
PENNSYLVANIA PROFESSIONAL LAND SURVEYOR #75250

FIELD DATE	08-29-2024
FIELD BOOK NO.	0524-02
FIELD BOOK PG.	78
FIELD CREW	C.K.
DRAWN:	P.V./M.T.
REVIEWED:	M.T./B.A.R.

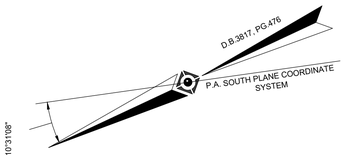
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NEW BRITAIN CORPORATE CENTER
1600 MANOR DRIVE, SUITE 210
CHALFONT, PA 18914
215.712.9600 - 215.712.9802 FAX
WWW.CPASURVEY.COM

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MT. LAUREL, NJ 609.857.2099
MANHATTAN, NY 646.780.0411
NEW HAVEN, CT 203.691.1100
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ALBANY, NY 518.217.5010
ROCHESTER, NY 585.250.1764
GEORGETOWN, DE 302.295.1010
HARRISBURG, PA 717.441.7100
HUDSON VALLEY, NY 845.691.7339
FT. LAUDERDALE, FL 954.763.7611

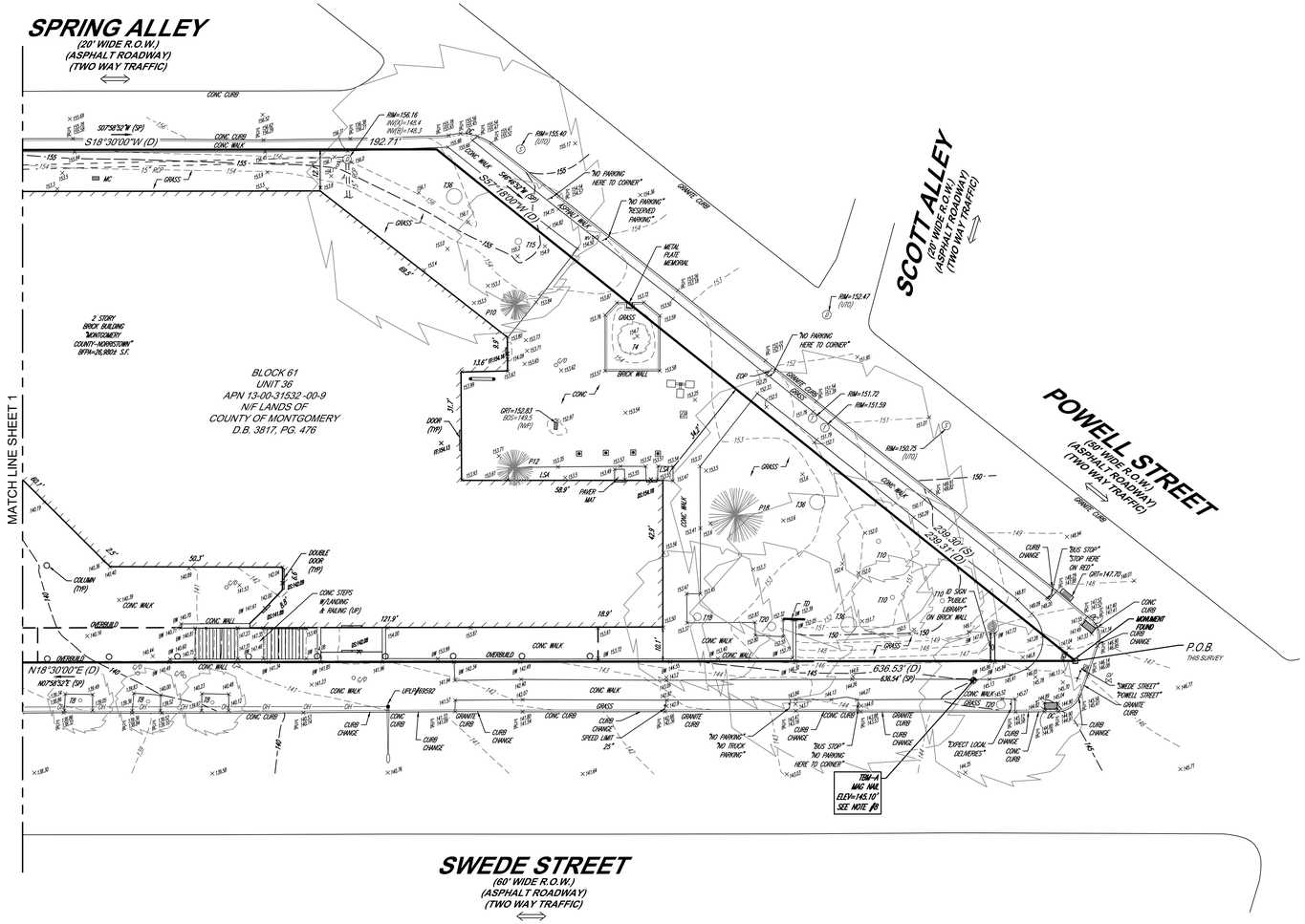
APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.
B.A.R./J.C.W.	10-04-2024	1" = 20'	02-240206-00	1 OF 2

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LEGEND

124 / 125	EXISTING CONTOUR
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	WATER VALVE
	ELECTRIC BOX
GM	GAS METER
GV	GAS VALVE
VALVE	UNKNOWN VALVE
E	ELECTRIC MANHOLE
UM	UNKNOWN MANHOLE
S	SANITARY/SEWER MANHOLE
T	TELEPHONE MANHOLE
C.O.	CLEAN OUT
P	POST
	GUY WIRE
UP	UTILITY POLE
UP/LPSP	UTILITY POLE/LIGHT POLE/SOLAR PANEL
	TRAFFIC SIGNAL
	PAINTED HANDICAPPED
	DETECTABLE WARNING PAD
	METAL COVERS
	SIGN
	BOLLARD
	U-BOLLARD
	GATE POST
	FLAG POLE
	AREA LIGHT
TF	DECIDUOUS TREE & TRUNK SIZE
PF	CONIFEROUS TREE & TRUNK SIZE
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BFPM	BUILDING FOOTPRINT AREA
BLDG	BUILDING
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APPROVED:	DATE	SCALE	FILE NO.	DWG. NO.	
B.A.R./J.C.W.	10-04-2024	1" = 20'	02-240206-00	2 OF	2

MONTGOMERY COUNTY NORRISTOWN PUBLIC LIBRARY

Manual & Motorized Shade Equipment Layout

NORRISTOWN, PA

DRAWING INDEX

SHEET #	SHEET TITLE	COMMENTS
1	COVER SHEET	
2	Floor 1 A Equipment Layout	
3	Floor 1 B Equipment Layout	
4	Floor 2 A Equipment Layout	
5	Floor 2 B Equipment Layout	
6	ELECTROSHADE iQ2+ EDU NETWORK WIRING DETAILS	
7	ELECTROSHADE iQ2+ EDU NETWORK WIRING NOTES	

ABBREVIATIONS

CLG.	-	CEILING						
CONT.	-	CONTINUED/CONTINUOUS	MAX.	-	MAXIMUM	SCHE.	-	SCHEDULE
CS.	-	CENTER SUPPORT	MIN.	-	MINIMUM	SECT.	-	SECTION
CTRL.	-	CONTROLLER	MIRR.	-	MIRRORED	SIM.	-	SIMILAR
CPU	-	COMPUTER PROCESSING UNIT	MT.	-	MOUNTED	SH.	-	SHADECLOTH
			MSS	-	MECHOSHADE SYSTEMS	SGL.	-	SINGLE
DBL.	-	DOUBLE				STMC	-	SOLARTRAC® MATRIX CTRL
DE.	-	DRIVE END	N.I.C.	-	NOT IN CONTRACT	S.O.H.	-	SHADE OPENING HEIGHT
DT.	-	DUMMY TUBE	NUMB.	-	NUMBER	S.T.	-	SHADE TUBE
						ST.	-	STATION
ELEV.	-	ELEVATION	O.H.	-	OPENING HEIGHT	S.T.W.	-	SHADE TUBE WIDTH
			O.O.W.	-	OVERALL OPENING WIDTH	S.O.W.	-	SHADE OPENING WIDTH
FLR.	-	FLOOR	OPP.	-	OPPOSITE	SIB	-	SEAM/BATTEN
						SO.	-	SOLAR
GYP.BD.	-	GYPSUM BOARD	PLN.	-	PLAN	SW.	-	SWITCH
G.C.	-	GUIDE CABLE	P.	-	PORT			
GTW.	-	GATEWAY	PKT.	-	POCKET	TYP.	-	TYPICAL
			PWR.	-	POWER			
H.HEM.	-	HEAVY HEMBAR	PNL.	-	PANEL	UNIV.E.H.	-	UNIVERSAL EXPOSED HEMBAR
HEM.	-	HEMBAR						
HT.	-	HEIGHT	REF.	-	REFERENCE	VERT.	-	VERTICAL
			REQ.	-	REQUIRED	V.I.F.	-	VERIFY IN FIELD
I.E.	-	IDLE END	REFL.	-	REFLECTED			
			RM.	-	ROOM	W.	-	WIDTH
L.	-	LENGTH	RR.	-	RAILROADED	W.P.	-	WORK POINT
L.G.	-	LIGHT GAP	R.U.D.	-	ROLL UP DIAMETER			

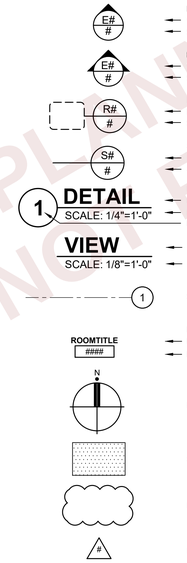
MECHO® SHADECLOTH ABBREVIATIONS

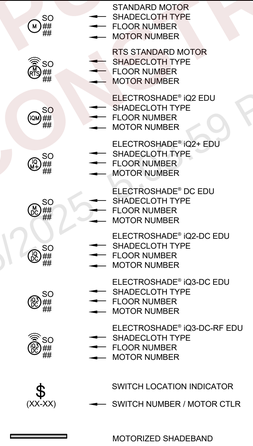
AC.	-	ACOUSTIVEIL SHADECLOTH	ET.	-	EUROTWILL® SHADECLOTH	SO.	-	SOLAR SHADECLOTH
BO.	-	BLACKOUT SHADECLOTH	EC.	-	ECOVEIL® SHADECLOTH	SH.	-	SOHO SHADECLOTH
CH.	-	CHELSEA BLACKOUT SHADECLOTH	EG.	-	ECOGLASS® SHADECLOTH	TV.	-	THERMOVEIL® SHADECLOTH
EV.	-	EUROVEIL® SHADECLOTH	ES.	-	ECOSHEER™ SHADECLOTH			

SHADE PLAN SYMBOLS LEGEND

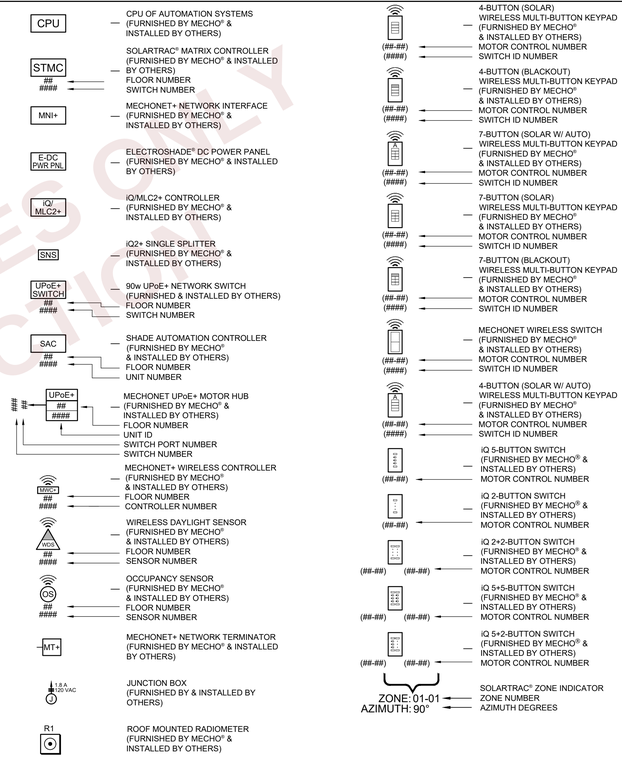
MECHO DRAWING VIEW DESIGNATION KEY:

S = SECTION VIEW
E = ELEVATION VIEW
R = REFLECTED VIEW
P = PLAN VIEW





LINE & LOW VOLTAGE WIRING PLAN SYMBOLS LEGEND



LINE VOLTAGE WIRING PLAN CABLE LEGEND

LINE VOLTAGE CABLE FOR MOTOR LEAD CONNECTIONS

LINE VOLTAGE CABLE FOR CONTROLLER CONNECTIONS

LINE VOLTAGE CABLE FOR BRANCH CIRCUIT POWER CONNECTIONS

LOW VOLTAGE WIRING PLAN CABLE LEGEND

LV — LOW VOLTAGE CABLE FOR NETWORK CONNECTIONS

LOW VOLTAGE CABLE FOR DRY CONTACT CONNECTIONS

LOW VOLTAGE CABLE FOR MOTOR LEAD CONNECTIONS

FOR PLANNING PURPOSES ONLY
NOT FOR CONSTRUCTION
09/26/2025 2:59 PM

PRELIMINARY. FOR REVIEW AND DISCUSSION ONLY

SHOP DRAWING DIMENSIONS:
HARDWARE SIZES ±1/32" (0.79mm), ROLL DIAMETER SIZES ±1/8" (3.18mm), EDGE CLEARANCE ±3/16" (4.76mm)
SHADEBANDS:
WIDTH AND HEIGHT DIMENSIONS (W X HT) ARE APPROXIMATE, SUBJECT TO FINAL FIELD DIMENSIONS TO BE SCHEDULED BY THE DEALER/CONTRACTOR & PROVIDED TO Mecho® FOR FABRICATION IN ACCORDANCE WITH CONTRACT DOCUMENTS. SHOP DRAWINGS ARE FOR TYPICAL DETAILS & SHADE LOCATIONS ONLY. FINAL SIZES ARE NOT INCLUDED. ALL BLOCKING & SUPPORTS ARE SHOWN FOR REFERENCE ONLY. BLOCKING DESIGN IS NOT INCLUDED IN THIS SHOP DRAWING. BLOCKING IS NOT IN CONTRACT.

NO.	DATE	DESCRIPTION	BY
		Value	
		Value	
		—	
		—	

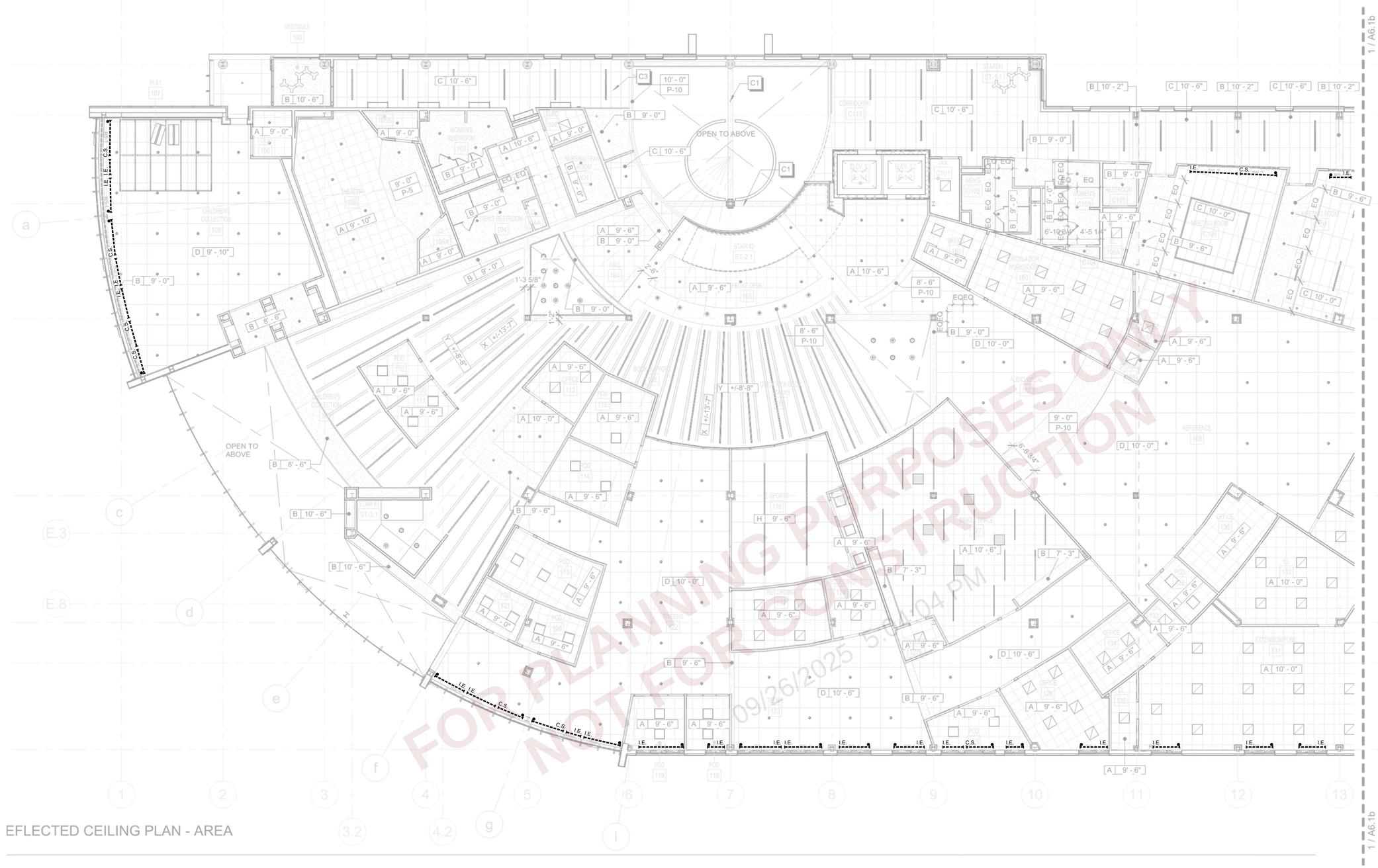
REVISIONS

Mecho
INNOVATIVE DESIGN.
TRUSTED PERFORMANCE.
42-03 35th Street
Long Island City, NY 11101
T: +1 (718) 729-2020
F: +1 (718) 729-2941
W: MechoShade.com

JOB TITLE	Montgomery County Norristown Public Library Manual & Motorized Shade Equipment Layout NORRISTOWN, PA
JOB NO.	306775
SHEET TITLE	COVER SHEET
PROPOSAL NO.	----
DATE	9.26.2025
SCALE	----
ARCHITECT	Kimmel Bogrette Architect
DWN. BY	B.S
CKD. BY	----
DEALER	----
SHEET NO.	1 OF 7
DWG NO.	----
REV.	

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EFLECTED CEILING PLAN - AREA

1 IQ2+ AC Motor & Manual Shade Equipment Layout - Floor 1 A

SCALE: 1/8" = 1'-0"

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NO.	DATE	DESCRIPTION	BY
Value			
Value			

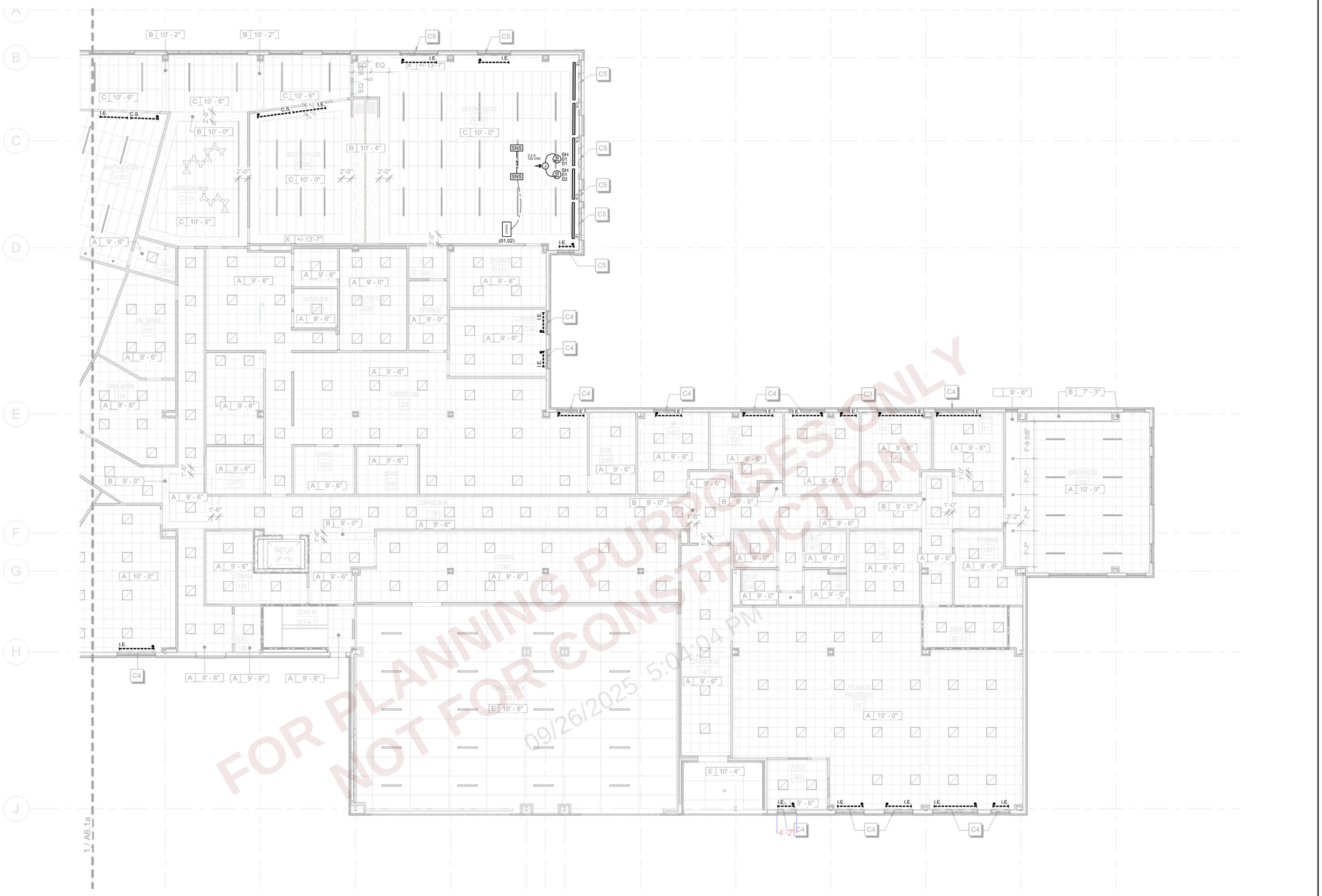
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Mecho
INNOVATIVE DESIGN.
TRUSTED PERFORMANCE.
42-03 35th Street
Long Island City, NY 11101
T: +1 (718) 729-2020
F: +1 (718) 729-2941
W: MechoShade.com

JOB TITLE	Montgomery County Norristown Public Library Manual & Motorized Shade Equipment Layout NORRISTOWN, PA
SHEET TITLE	FLOOR 1 A EQUIPMENT LAYOUT
ARCHITECT	Kimmel Bogrette Architect
DEALER	----
DWG NO.	----
REV.	
JOB NO.	306775
PROPOSAL NO.	----
DATE	9.26.2025
SCALE	----
DWN. BY	B.S
CKD. BY	----
SHEET NO.	2 OF 7

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E:\ PROJECTS\2025\25-0029 MONTGOMERY COUNTY NORRISTOWN PUBLIC LIBRARY\DRAWINGS\SHOP DRAWINGS\25-0029 MONTGOMERY COUNTY NORRISTOWN PUBLIC LIBRARY.RVT 9/26/2025 5:01:04 PM BY: BSAMUEL



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1 IQ2+ AC Motor & Manual Shade Equipment Layout - Floor 1 B

SCALE: 1/8" = 1'-0"

SHOP DRAWING DIMENSIONS:
HARDWARE SIZES ±1/32" (0.79mm), ROLL DIAMETER SIZES ±1/8" (3.18mm), EDGE CLEARANCE ±3/16" (4.76mm)
SHADEBANDS:
WIDTH AND HEIGHT DIMENSIONS (W X HT) ARE APPROXIMATE, SUBJECT TO FINAL FIELD DIMENSIONS TO BE SCHEDULED BY THE DEALER/CONTRACTOR & PROVIDED TO Mecho® FOR FABRICATION IN ACCORDANCE WITH CONTRACT DOCUMENTS. SHOP DRAWINGS ARE FOR TYPICAL DETAILS & SHADE LOCATIONS ONLY. FINAL SIZES ARE NOT INCLUDED. ALL BLOCKING & SUPPORTS ARE SHOWN FOR REFERENCE ONLY. BLOCKING DESIGN IS NOT INCLUDED IN THIS SHOP DRAWING. BLOCKING IS NOT IN CONTRACT.

NO.	DATE	DESCRIPTION	BY
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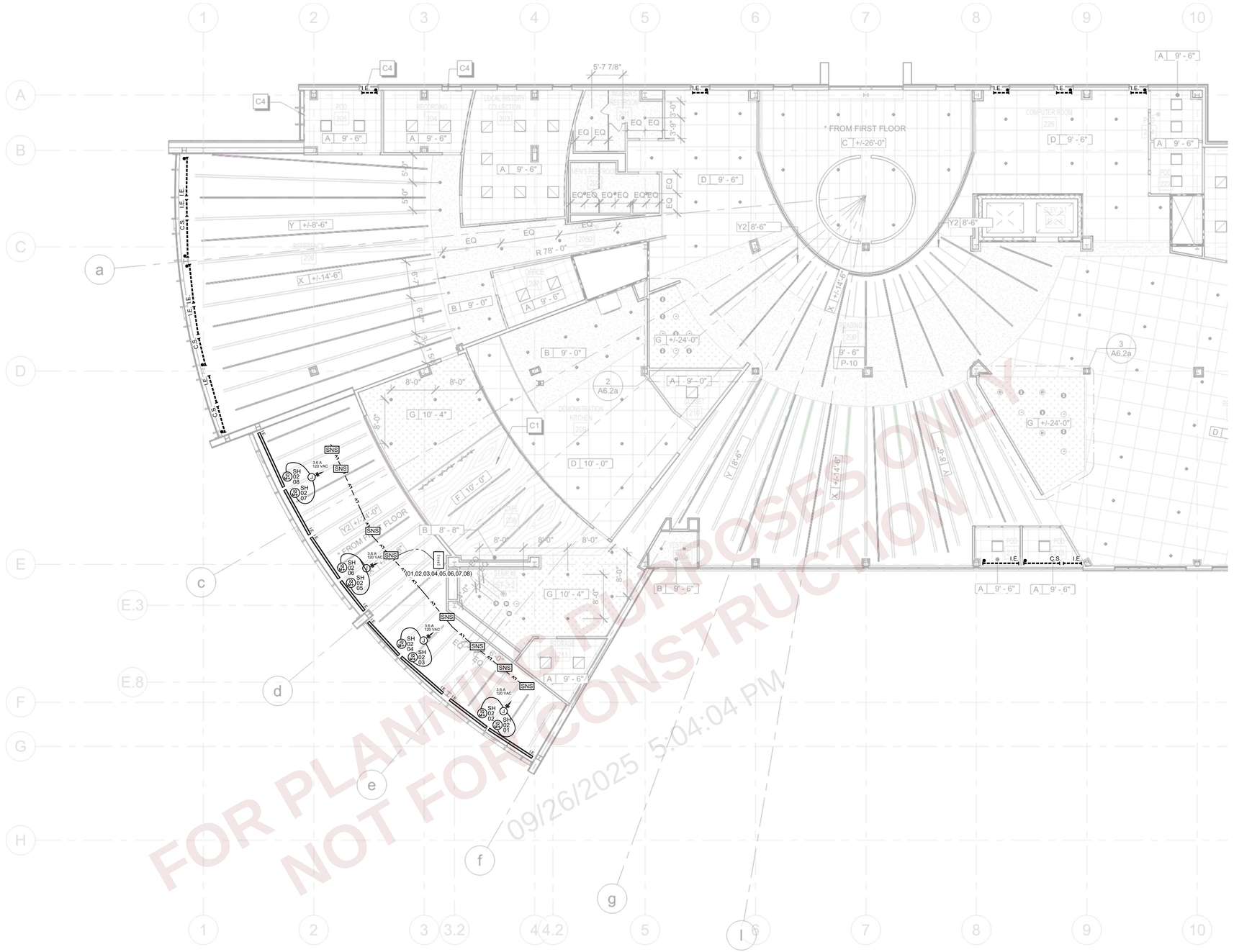
REVISIONS

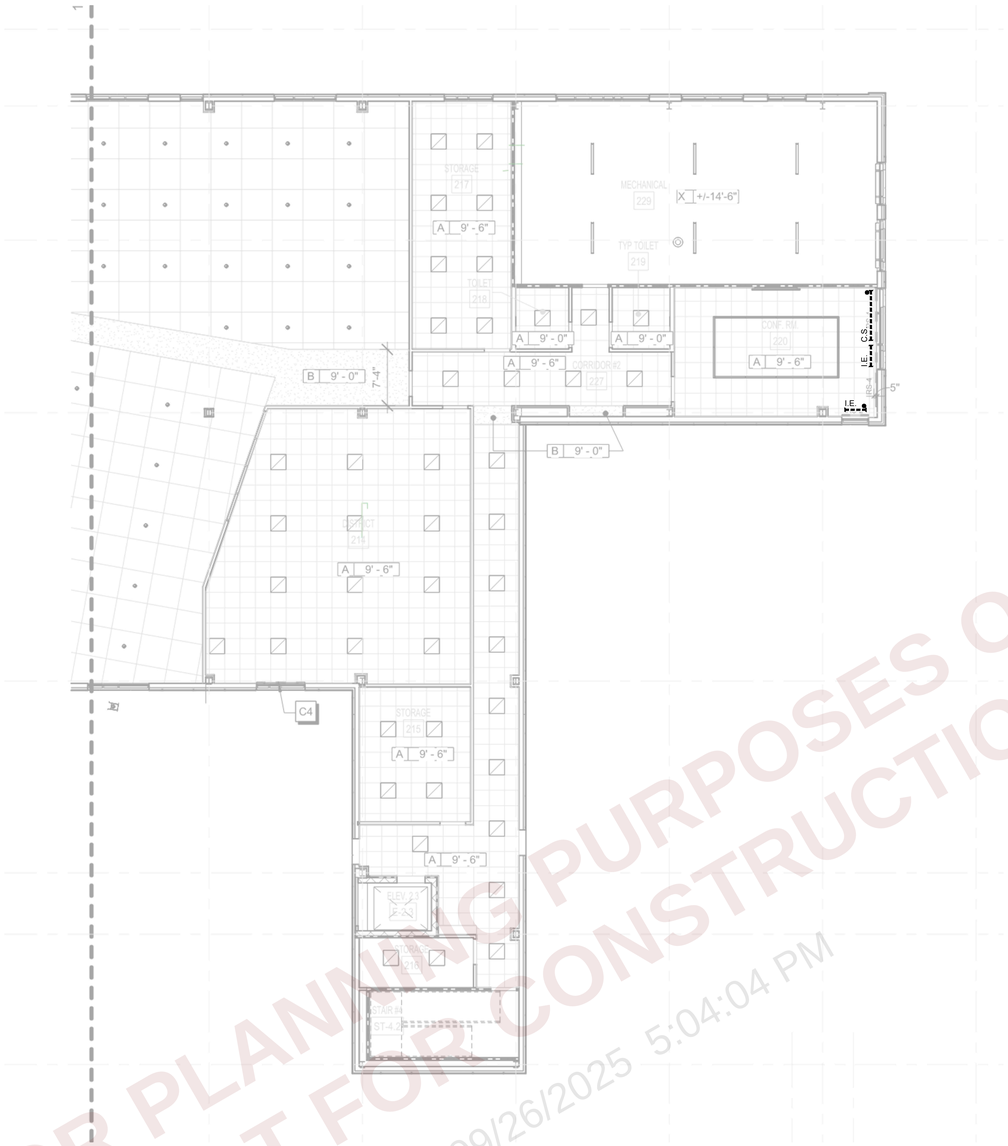
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W: MechoShade.com

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SHEET TITLE	FLOOR 1 B EQUIPMENT LAYOUT
ARCHITECT	Kimmel Bogrette Architect
DEALER	----
DWG NO.	---- REV:
JOB NO.	306775
PROPOSAL NO.	----
DATE	9.26.2025
SCALE	----
DWN. BY	B.S
CKD. BY	----
SHEET NO.	3 OF 7

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41 E NAME IE:\ACAD SOLUTIONS\PROJECTS\SOLUTIONS\306775 IQ2 EQUIPMENT LAYOUT\NORRISTOWN PUBLIC LIBRARY\DRAWINGS\PLANS\EQUIPMENT DRAWINGS - SHOP\306775-SHOP-1 FLOOR 1 B EQUIPMENT LAYOUT.DWG


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C4
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Y +/-8'-6"
X +/-14'-6"
R 78' - 0"
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Y2 8'-6"
X +/-14'-6"
Y 8'-6"
X +/-44'-6"
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Y2 +/-8'-0"
ROOM FLOOR
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A6.2a
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1 IQ2+ AC Motor & Manual Shade Equipment Layout - Floor 2 B

SCALE: 1/8" = 1'-0"

SHOP DRAWING DIMENSIONS:
HARDWARE SIZES ±1/32" (0.79mm), ROLL DIAMETER SIZES ±1/8" (3.18mm),
EDGE CLEARANCE ±3/16" (4.76mm)
SHADEBANDS:
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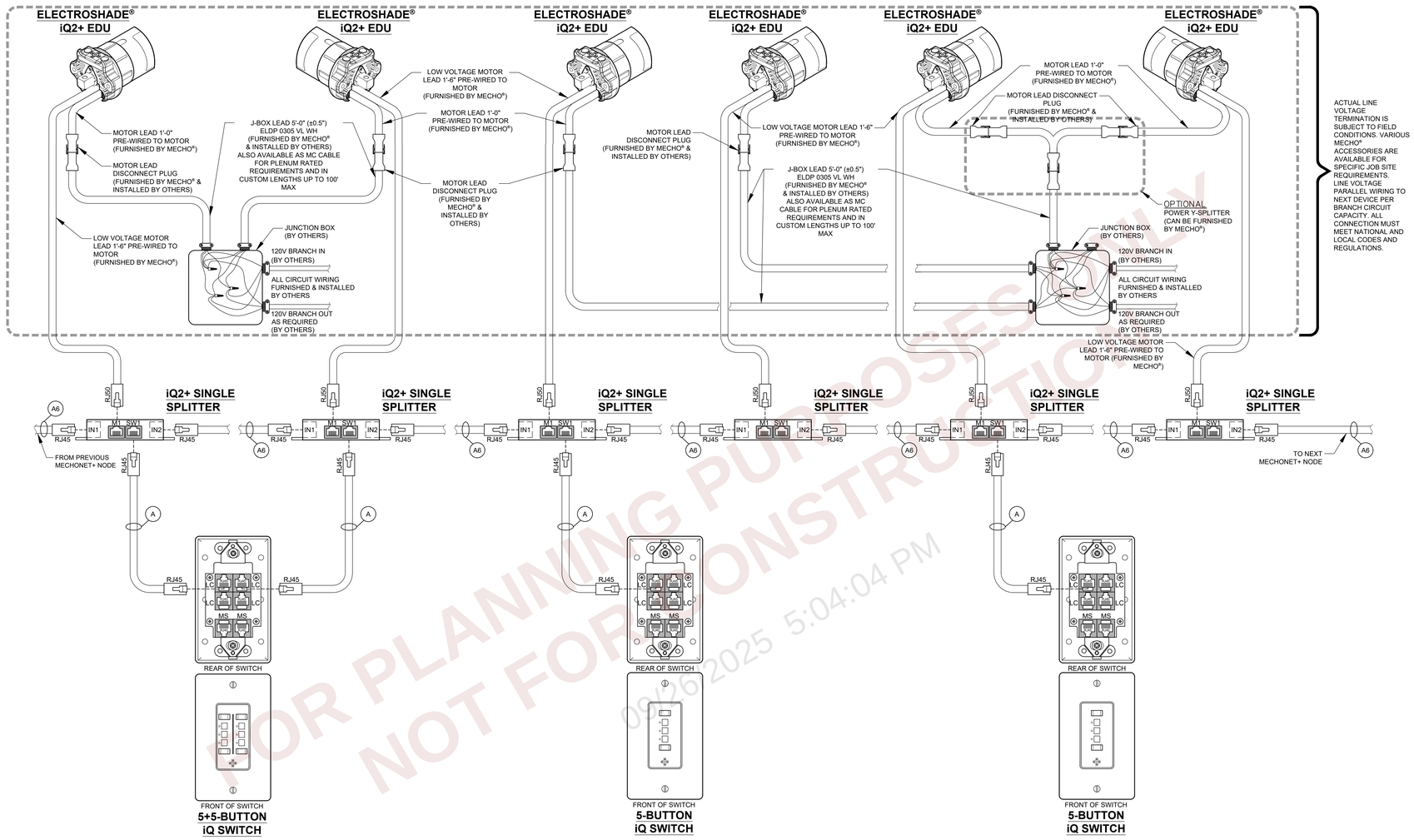
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JOB TITLE	Montgomery County Norristown Public Library Manual & Motorized Shade Equipment Layout NORRISTOWN, PA
SHEET TITLE	FLOOR 2 B EQUIPMENT LAYOUT
ARCHITECT	Kimmel Bogrette Architect
DEALER	----
DWG NO.	---- REV:
JOB NO.	306775
PROPOSAL NO.	----
DATE	9.26.2025 SCALE: ----
DWN. BY	B.S CKD. BY: ----
SHEET NO.	5 OF 7

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E:\CAD_ACTIVE PROJECTS\2025\25003 PMC-GAL\1 EXTENSION SHEETS\MONTGOMERY COUNTY\NORRISTOWN PUBLIC LIBRARY\DWGS\BLUEBEAM\1 SHEETS\NORRISTOWN PUBLIC LIBRARY_3D2.DWG 9/26/2025 5:04:04 PM 1 FLOOR 2 B EQUIPMENT LAYOUT



ELECTROSHADE® iQ2+ EDU NETWORK WIRING DETAILS

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09/26/2025 5:04:04 PM

GENERAL NOTE:

1. DEVICES ON THIS NETWORK HAVE BEEN CONFIGURED FOR AUTOMATION USING A MECHOSHADE SOLARTRAC® COMPUTER OR SUNDIALER.
2. ALL MOTORS, MWC'S, WDS'S, MNI'S, UP&E MOTOR HUBS, & iQ/MLC2'S ARE SHIPPED PRE-ADDRESSED BASED ON THEIR LOCATION, ZONE, AZIMUTH, & LOCAL OVERRIDE SWITCHING REQUIREMENTS IN ACCORDANCE WITH THE APPROVED SHOP DRAWINGS. UNDER NO CIRCUMSTANCES SHOULD CHANGES BE MADE TO THE DESIGNATED LOCATIONS AND/OR ADDRESSES ON ANY OF THESE DEVICES WITHOUT WRITTEN CONSENT FROM THE MECHOSHADE PROJECT MANAGER FOR THIS PROJECT.
3. CHANGES TO ANY OF THESE DEVICE LOCATIONS AND/OR ADDRESSES WITHOUT FIRST CONSULTING MECHOSHADE WILL ADVERSELY AFFECT THE SOLARTRAC® OR SUNDIALER OPERATION WHICH MAY REQUIRE A MECHOSHADE TECH TO RESOLVE AT AN ADDITIONAL COST.

SHOP DRAWING DIMENSIONS:
HARDWARE SIZES ±1/32" (0.79mm), ROLL DIAMETER SIZES ±1/8" (3.18mm), EDGE CLEARANCE ±3/16" (4.76mm)

SHADEBANDS:
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Value			
Value			

REVISIONS

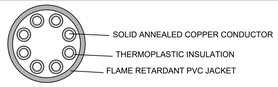
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Long Island City, NY 11101
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JOB TITLE	Montgomery County Norristown Public Library Manual & Motorized Shade Equipment Layout NORRISTOWN, PA
SHEET TITLE	ELECTROSHADE iQ2+ EDU NETWORK WIRING DETAILS
ARCHITECT	Kimmel Bogrette Architect
DEALER	----
DWG NO.	---- REV:
JOB NO.	306775
PROPOSAL NO.	----
DATE	9.26.2025
SCALE	----
DWN. BY	B.S
CKD. BY	----
SHEET NO.	6 OF 7

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CABLE A REFERENCE DRAWING



DRAWING NOT TO SCALE

OLYMPIC WIRE AND CABLE
(WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3078M5F-8 (NON-PLENUM)

SPECIFICATIONS (STRANDED): CATEGORY 5E

PAIR COUNT:	4	MAX. DC RESISTANCE:	26 OHMS PER KFT
CONDUCTOR:	TINNED COPPER	NOM. CAPACITANCE:	13.5 PF PER KFT
AWG (mm):	24 (0.51)	IMPEDANCE:	100 OHMS ±15% FROM 1-20 MHZ
STRANDING:	STRANDED BARE COPPER 7/32	NOMINAL VEL OF PROP:	67%
INSULATION:	HIGH-DENSITY POLYETHYLENE	NOMINAL O.D.:	0.220 IN
(HDPE)		NEC TYPE:	800
INSULATION THICKNESS:	.007in	CSA STYLE:	C(UL)
INSULATION COLORS:		UL STYLE:	CM
PAIR 1:	COLORTIP LIGHT BLUE, BLUE	COLOR CODE:	CHART 9
PAIR 2:	COLORTIP LIGHT ORANGE, ORANGE	VOLTAGE:	300
PAIR 3:	COLORTIP LIGHT GREEN, GREEN	RoHS COMPLIANT:	YES
PAIR 4:	COLORTIP LIGHT BROWN, BROWN	OPERATING TEMP:	75°C
JACKET MATERIAL:	POLYVINYL CHLORIDE (PVC)		
JACKET THICKNESS:	.020		
JACKET COLOR:	GRAY		

OLYMPIC WIRE AND CABLE
(WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3604M5UC-9 (PLENUM)

SPECIFICATIONS (SOLID): CATEGORY 5E

PAIR COUNT:	4	DC RESISTANCE:	9.38 OHMS PER 100M
CONDUCTOR:	BARE COPPER (BC)	MAX. DC RESISTANCE:	25.7 OHMS PER KFT AT 1 MHZ
AWG (mm):	24 (0.51)	NOM. CAPACITANCE:	14 PF PER KFT
STRANDING:	SOLID BARE COPPER 7/32	IMPEDANCE:	100 OHMS ±15% FROM 1-20 MHZ
INSULATION MATERIAL:	FLUOROPOLYMER	NOMINAL VEL OF PROP:	72%
INSULATION THICKNESS:	.007in	NOMINAL O.D.:	0.170 IN
INSULATION COLORS:		NEC TYPE:	800
PAIR 1:	COLORTIP LIGHT BLUE, BLUE	CSA FLAME TEST:	FT-6
PAIR 2:	COLORTIP LIGHT ORANGE, ORANGE	UL STYLE:	CMP
PAIR 3:	COLORTIP LIGHT GREEN, GREEN	UL FLAME TEST:	NFPA 262
PAIR 4:	COLORTIP LIGHT BROWN, BROWN	VOLTAGE:	300
JACKET MATERIAL:	FLAME RETARDANT (FR) POLYVINYL	RoHS COMPLIANT:	YES
CHLORIDE (PVC)		OPERATING TEMP:	75°C
JACKET THICKNESS:	.020		
JACKET COLOR:	WHITE		

LOW VOLTAGE CABLE LEGEND - EIA568B

NOTES:
1. PARALLEL WIRING TO NEXT DEVICE PER BRANCH CIRCUIT CAPACITY. ALL CONNECTION MUST MEET NATIONAL AND LOCAL CODES AND REGULATIONS.
2. ADDRESS SCHEDULES REQUIRED.
3. MAXIMUM VOLTAGE FOR ALL UNMARKED CABLE IS 43.5 VDC.
4. LOW VOLTAGE CABLES SHOULD NOT BE ROUTED NEAR POWER LINES OR ELECTRICAL DEVICES SUCH AS LIGHTING BALLASTS, DIMMERS AND LED DRIVERS THAT MAY EXPOSE THE SYSTEM TO EXCESSIVE ELECTRICAL NOISE.

(A)

CAT5E/6 - CABLE FOR LOW VOLTAGE DRY CONTACT WIRING CONNECTIONS:

SPECIFICATION: 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR)
TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS
RECOMMENDED: OLYMPIC WIRE AND CABLE (WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3078M5F-8 (NON-PLENUM) OR COMPATIBLE CABLE.

----------OR----------

SPECIFICATION: 24AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR)
TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS
RECOMMENDED: OLYMPIC WIRE AND CABLE (WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3604M5UC-9 (PLENUM) OR COMPATIBLE CABLE.

DISTANCE LIMITATION: 400' CUMULATIVE
SEE "CABLE A REFERENCE DRAWING" FOR DETAILED SPECIFICATION.
(FURNISHED & INSTALLED BY OTHERS)

(A6)

CAT5E/6 - CABLE FOR MECHONET+ NETWORK WIRING CONNECTIONS:

SPECIFICATION: 24AWG 4UTP (8-CONDUCTOR STRANDED UNSHIELDED TWISTED PAIR)
TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS
RECOMMENDED: OLYMPIC WIRE AND CABLE (WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3078M5F-8 (NON-PLENUM) OR COMPATIBLE CABLE.

----------OR----------

SPECIFICATION: 24AWG 4UTP (8-CONDUCTOR SOLID UNSHIELDED TWISTED PAIR)
TERMINATION: RJ-45 MODULAR PLUG CRIMPED (EIA568B) ON BOTH ENDS
RECOMMENDED: OLYMPIC WIRE AND CABLE (WWW.OLYMPICWIRE.COM 1-800-526-2269) PART NO. 3604M5UC-9 (PLENUM) OR COMPATIBLE CABLE.

DISTANCE LIMITATION: 4000' CUMULATIVE. MAX. NODES: 250.
SEE "CABLE A REFERENCE DRAWING" FOR DETAILED SPECIFICATION.
(FURNISHED & INSTALLED BY OTHERS)

PATCH LEAD CABLE NOTE: THE CUMULATIVE "DISTANCE LIMITATION" SHALL BE REDUCED BY THE LENGTH OF THE "LOW VOLTAGE MOTOR LEAD PATCH CABLES" MULTIPLIED BY 2.

STANDARD ELECTRICAL NOTES

ALL ELECTRICAL CONTROL EQUIPMENT AS INDICATED IS FURNISHED-ONLY BY MECHO®, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR.

ELECTRICAL CONTROL EQUIPMENT MAY CONTAIN ELECTRO MECHANICAL RELAYS, ADJUSTMENT POINTS, FUSES, INDICATOR LIGHTS, AND OTHER INTERFACE ELECTRONICS. THESE MUST BE CONVENIENTLY ACCESSIBLE FOR FUTURE SERVICING AND ADJUSTMENTS DURING NORMAL WORKING HOURS AND WITHOUT DISRUPTION TO THE EXISTING OPERATIONS. THIS EQUIPMENT SHALL BE LABELED BY THE ELECTRICAL CONTRACTOR INDICATING SHADE LOCATIONS AND SPECIFIC MOTORS WHICH ARE CONTROLLED, AND IT SHALL BE LABELED AT THE CONTROL EQUIPMENT AND CIRCUIT BREAKER.

SOME POINT-TO-POINT DIAGRAMS MAY NOT INCLUDE MOTOR DISCONNECT PLUGS, JUNCTION BOXES AND CABLE RACEWAYS THAT MAY OTHERWISE BE ESSENTIAL FOR A COMPLETE INSTALLATION. THE POINT-TO-POINT DIAGRAMS MAY ALSO NOT DEPICT A COMPLETE OR ACCURATE WIRING ARRANGEMENT THAT MEETS ALL APPLICABLE NATIONAL AND LOCAL CODES FOR A GIVEN PROJECT LOCATION.

WARNING:
- WIRING MUST BE ACCOMPLISHED BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH ALL THE APPLICABLE NATIONAL AND LOCAL CODES.
- IMPROPER WIRING CAN RESULT IN PERSONAL INJURY AND / OR DAMAGE TO EQUIPMENT AND SURROUNDINGS.
- READ ALL INSTRUCTIONS BEFORE INSTALLING. IT IS IMPORTANT FOR THE SAFETY OF EACH PERSON TO FOLLOW THESE INSTRUCTIONS. IF YOU ARE UNSURE OF ANY PART, STOP AND CONTACT A QUALIFIED INSTALLER.
- CODE REQUIRES AN ACCESSIBLE DETACHABLE POWER CORD, SWITCH OR DISCONNECT AT THE POINT OF INSTALLATION FOR THE DRIVE WHICH MUST BE LOCATED AWAY FROM MOVING PARTS.
- SAVE ALL INSTRUCTIONS.
- ALL ELECTRICAL CONTROL EQUIPMENT MUST BE WIRED IN ACCORDANCE WITH THE WIRING DIAGRAMS PREPARED BY MECHOSHADE, AND IN ACCORDANCE WITH ALL APPLICABLE NATIONAL (I.E. UNITED STATES: N.E.C.) AND LOCAL CODES.
- BEFORE INSTALLING OR SERVICING REMOVE ANY UNNECESSARY CORDS AND DISABLE ANY EQUIPMENT NOT NEEDED FOR POWERED OPERATION.
- TO AVOID THE RISK OF FIRE, SHOCK OR DEATH TURN OFF THE POWER AT THE CIRCUIT BREAKER OR FUSE BEFORE WIRING OR SERVICING EQUIPMENT. TEST THAT POWER IS OFF BEFORE PROCEEDING.
- MAKE SURE THAT THE MAINS VOLTAGE MATCHES THE RATINGS ON THE PRODUCT LABELS.
- LINE VOLTAGE WIRING SHOULD ONLY BE CONNECTED USING COPPER OR COPPER-CLAD ALUMINUM WIRE WITH THE CC-CU OR CU-CC MARKINGS.
- AN OUTLET OR TERMINAL BOX TO WHICH CONNECTIONS TO THE POWER SUPPLY CIRCUIT WILL BE MADE SHALL BE LOCATED SO THAT, AFTER THE APPLIANCE HAS BEEN INSTALLED, SUCH CONNECTIONS ARE ACCESSIBLE FOR INSPECTION.
- THE LEADS INTENDED TO BE SPLICED IN THE FIELD SHALL HAVE INSULATION NOT LESS THAN 1/32 IN. (0.8MM) THICK.
- A HOLE THROUGH WHICH INSULATED WIRES PASS IN A SHEET METAL WALL SHALL BE PROVIDED WITH A SMOOTH, ROUNDED PROTECTIVE BUSHING.

GREEN MOTOR WIRES ARE TO BE FASTENED TO THE GROUNDING POINT ON GROUNDED JUNCTION BOXES, CONDUITS OR OTHER SUITABLE BUILDING GROUND LOCATIONS AS REQUIRED BY CODE.
- DO NOT CONNECT LOW VOLTAGE WIRES TO HIGH VOLTAGE POWER. IMPROPER WIRING CAN RESULT IN PERSONAL INJURY AND/OR DAMAGE TO THE EQUIPMENT.
- LOW VOLTAGE CABLES SHOULD NOT BE ROUTED NEAR POWER LINES OR ELECTRICAL DEVICES SUCH AS LIGHTING BALLASTS, DIMMERS AND LED DRIVERS THAT MAY EXPOSE THE SYSTEM TO EXCESSIVE ELECTRICAL NOISE.
- WHEN CRIMPING RJ CONNECTORS ON MODULAR CABLE OR CAT5/6 CABLE, CARE MUST BE TAKEN TO FOLLOW CRIMPING INSTRUCTIONS IN ORDER TO ENSURE A RELIABLE CONNECTION. THE OUTER JACKET MUST BE CAPTURED WITHIN THE CRIMP ON THE CONNECTION IN ORDER TO ENSURE PROPER STRAIN RELIEF.
- PRE-CRIMPED TELEPHONE CABLES WILL NOT WORK.
- OBSERVE WIRING GUIDELINES IN THE LOW VOLTAGE CABLING LEGEND IN ORDER TO ENSURE MAXIMUM CABLE LENGTHS AND MAXIMUM NODE COUNT ARE PROPERLY FOLLOWED.
- EUROPE: DO NOT PERMIT CHILDREN TO PLAY WITH THE APPLIANCE (SHADE MOTORS) OR FIXED CONTROLS. KEEP REMOTE CONTROLS AWAY FROM CHILDREN.
- EUROPE: THE APPLIANCE (SHADE MOTOR) IS NOT INTENDED FOR USE BY CHILDREN OR PEOPLE WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES OR LACK OF EXPERIENCE AND KNOWLEDGE UNLESS GIVEN PROPER INSTRUCTION OR SUPERVISION.

CANADA: THE IMPEDANCE OF THE BONDING CONNECTION TO THE SHADE MOTOR MUST BE AT LEAST 0.1 OHMS.

EXCEPT FOR THE DRAPERY OPERATOR (SHADE MOTOR), ALL EXPOSED DEAD METAL PARTS AND ALL DEAD METAL PARTS WITHIN THE ENCLOSURE SHALL BE RELIABLY CONNECTED TO THE EQUIPMENT-BONDING TERMINAL OR LEAD.

CODE REQUIRES AN ACCESSIBLE, DETACHABLE POWER CORD OR SWITCH AT THE POINT OF INSTALLATION AND AWAY FROM MOVING PARTS FOR THE SHADE MOTOR.

EUROPE: THE ACTUATING MEMBER OF A BIASED-OFF SWITCH SHALL BE LOCATED WITHIN DIRECT SIGHT OF THE SHADE ASSEMBLY BUT AWAY FROM MOVING PARTS. IT SHALL BE INSTALLED AT A MINIMUM HEIGHT OF 4.92 FT. (1.5M) AND POSSESS AN OPENING DISTANCE BETWEEN CONTACTS OF AT LEAST 0.12 IN. (3MM). CONTROLS ARE ALL CERTIFIED IN INSTALLATION UP TO 6562 FT. (2000M) ABOVE SEA LEVEL.

ALL TUBULAR SHADE MOTORS ARE LIMITED DUTY CYCLE MOTORS THAT ARE NOT RATED FOR CONTINUOUS USE. THEY POSSESS BUILT-IN THERMAL OVERLOAD PROTECTION WHICH LIMITS THEIR CONTINUOUS USE TO APPROXIMATELY FIVE (5) MINUTES. ONCE PROTECTION ACTIVATES, OPERATION WILL RESUME AGAIN AFTER THE INTERNAL TEMPERATURES WITHIN THE MOTOR RETURN TO BELOW THE THERMAL LIMIT. UP TO A THIRTY (30) MINUTE REST MAY BE REQUIRED IN ORDER FOR THE MOTOR TO SUSTAIN REGULAR OPERATION ONCE AGAIN.

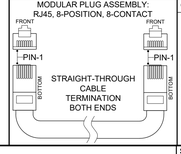
INTELLIGENT (BI-DIRECTIONAL) LINE VOLTAGE TUBULAR MOTORS (A.K.A. "INTELLIGENT MOTORS")
THE ELECTROSHADE® INTELLIGENT MOTORS POSSESS A LINE VOLTAGE MOTOR LEADS WHICH IS A 3-CONDUCTOR (LINE, NEUTRAL, EARTH), 18 AWG STRANDED, PVC-JACKETED CABLE APPROXIMATELY ONE FOOT (1 FT. OR 305MM) LONG WITH A 4-CONDUCTOR OR 3-CONDUCTOR DISCONNECT PLUG.

THE STANDARD ELECTROSHADE® JUNCTION BOX LEAD IS A 4-CONDUCTOR (LINE1, LINE2, NEUTRAL, EARTH) OR 3-CONDUCTOR (LINE, NEUTRAL, EARTH), 18 AWG STRANDED, PVC-JACKETED CABLE APPROXIMATELY FIVE FEET (5 FT. OR 1525MM) LONG WITH A MATING 4-CONDUCTOR OR 3-CONDUCTOR DISCONNECT PLUG. VARIATIONS ARE OFFERED AT 5 FT. INCREMENTS UP TO 25 FT. CUSTOM LENGTHS ARE ALSO AVAILABLE.

FOR ALL INTELLIGENT MOTORS SUCH AS I-CON, iQ, iQ2, iQ2+, RTS, ILT AND ILT2; PARALLEL OR SERIES "DAISY-CHAINED" WIRING IS PERMITTED UP TO THE CAPACITY OF THE BRANCH CIRCUIT RELATIVE TO CODE REQUIREMENTS.

EIA 568B CRIMPING - 8 CONDUCTOR CABLE
MECHONET+ (IN1) PORT ON iQ2+ SINGLE SPLITTER

MODULAR PLUG ASSEMBLY:
RJ45, 8-POSITION, 8-CONTACT

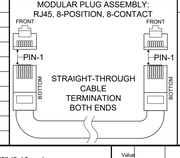


CABLE TYPE: CAT5/CAT5e/CAT6

	PIN#:	WIRE COLOR:	FUNCTION:
CAT5/CAT6 CRIMP	● 1	ORANGE/WHITE STRIPE	BS-V+
	2	ORANGE SOLID	BS-COM
	3	GREEN/WHITE STRIPE	GND
	4	BLUE SOLID	MECHONET+ A
	5	BLUE/WHITE STRIPE	MECHONET+ B
	6	GREEN SOLID	PWR
	7	BROWN/WHITE STRIPE	BS-V+
	8	BROWN SOLID	BS-COM

EIA 568B CRIMPING - 8 CONDUCTOR CABLE
MECHONET+ (IN2) PORT ON iQ2+ SINGLE SPLITTER

MODULAR PLUG ASSEMBLY:
RJ45, 8-POSITION, 8-CONTACT

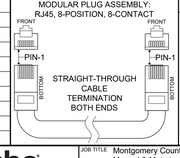


CABLE TYPE: CAT5/CAT5e/CAT6

	PIN#:	WIRE COLOR:	FUNCTION:
CAT5/CAT6 CRIMP	● 1	ORANGE/WHITE STRIPE	BS-V+
	2	ORANGE SOLID	BS-COM
	3	GREEN/WHITE STRIPE	N/C
	4	BLUE SOLID	MECHONET+ A
	5	BLUE/WHITE STRIPE	MECHONET+ B
	6	GREEN SOLID	N/C
	7	BROWN/WHITE STRIPE	BS-V+
	8	BROWN SOLID	BS-COM

EIA 568B CRIMPING - 8 CONDUCTOR CABLE
SWITCH (SW1) PORT ON iQ2+ SINGLE SPLITTER

MODULAR PLUG ASSEMBLY:
RJ45, 8-POSITION, 8-CONTACT



CABLE TYPE: CAT5/CAT5e/CAT6

	PIN#:	WIRE COLOR:	FUNCTION:
CAT5/CAT6 CRIMP	● 1	ORANGE/WHITE STRIPE	N/C
	2	ORANGE SOLID	PWR
	3	GREEN/WHITE STRIPE	GND
	4	BLUE SOLID	UP
	5	BLUE/WHITE STRIPE	MID
	6	GREEN SOLID	DN
	7	BROWN/WHITE STRIPE	FB
	8	BROWN SOLID	N/C

SHOP DRAWING DIMENSIONS:
HARDWARE SIZES ±1/32" (0.79mm). ROLL DIAMETER SIZES ±1/8" (3.18mm), EDGE CLEARANCE ±3/16" (4.76mm)
SHADEBANDS:
WIDTH AND HEIGHT DIMENSIONS (W X HT) ARE APPROXIMATE, SUBJECT TO FINAL FIELD DIMENSIONS TO BE SCHEDULED BY THE DEALER/CONTRACTOR & PROVIDED TO Mecho® FOR FABRICATION IN ACCORDANCE WITH CONTRACT DOCUMENTS. SHOP DRAWINGS ARE FOR TYPICAL DETAILS & SHADE LOCATIONS ONLY. FINAL SIZES ARE NOT INCLUDED. ALL BLOCKING & SUPPORTS ARE SHOWN FOR REFERENCE ONLY. BLOCKING DESIGN IS NOT INCLUDED IN THIS SHOP DRAWING. BLOCKING IS NOT IN CONTRACT.

NO.	DATE	DESCRIPTION	BY
Value			
Value			

REVISIONS

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JOB TITLE	Montgomery County Norristown Public Library Manual & Motorized Shade Equipment Layout NORRISTOWN, PA
SHEET TITLE	ELECTROSHADE iQ2+ EDU NETWORK WIRING NOTES
ARCHITECT	Kimmel Bogrette Architect
DEALER	----
DWG NO.	---- REV:
JOB NO.	306775
PROPOSAL NO.	----
DATE	9.26.2025
SCALE	----
DWN. BY	B.S
CKD. BY	----
SHEET NO.	7 OF 7

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