

Project Specifications  
Volume 1 of 1

**Notch Road Municipal Center  
Demolition  
104 Notch Road  
Bolton, Connecticut**

Tighe & Bond Project No. 1151780001

Contracting Agency:  
Town of Bolton, CT  
222 Bolton Center Road Street  
Bolton, CT 06043

November 8, 2024

**Tighe&Bond**  
213 Court Street  
Middletown, CT 06457

**Notch Road Municipal Center Demolition  
Town of Bolton Connecticut  
104 Notch Road Bolton, Connecticut  
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SECTION 00410

FORM FOR GENERAL BID

**Notch Road Municipal Center Demolition  
Town of Bolton Connecticut  
104 Notch Road Bolton, Connecticut**

TABLE OF ARTICLES

1. Bid Recipient
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**ARTICLE 1 - BID RECIPIENT**

- 1.1 This Bid is submitted to:

Bolton Selectman's Office

222 Bolton Center Road, Bolton CT 06043

- 1.2 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

**ARTICLE 2 - BIDDER'S ACKNOWLEDGEMENTS**

- 2.1 Bidder accepts all of the terms and conditions of the Advertisement for Bids and Instructions to Bidders, including without limitation, those dealing with the disposition of Bid deposit. The Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

**ARTICLE 3 - BIDDER'S REPRESENTATIONS**

- 3.1 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:
- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents and hereby acknowledges the receipt of all Addenda.
  - B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

- C. Bidder is familiar with and has satisfied itself as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Bidding Documents, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Bidding Documents, especially with respect to Technical Data in such reports and drawings.
- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.
- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

#### ARTICLE 4 - BIDDER'S CERTIFICATION

- 4.1 Bidder certifies that, under penalty of perjury, Bidder is not presently debarred from doing public construction work in the State of Connecticut under the provisions of Section 31-53a of the Connecticut General Statutes or any other applicable debarment provisions of any other chapter of the General Statutes or any rule or regulation promulgated thereunder; and is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
- 4.2 Bidder hereby certifies under the penalties of perjury, to the best of Bidder's knowledge and belief, that Bidder has filed all State tax returns and paid all State taxes required by law.

- 4.3 Bidder certifies that, under the penalties of perjury, this Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph the word “person” shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.
- 4.4 Bidder certifies that, under penalties of perjury, there have been no substantial changes in Bidder’s financial position or business organization other than those changes noted within the application since the applicant’s most recent prequalification statement and that the Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. “Person” here means any natural person, joint venture, partnership, corporation or other business or legal entity which sells materials, equipment or supplies used in or for, or engages in the performance of, the same or similar construction, reconstruction, installation, demolition, maintenance or repair work or any part thereof.
- 4.5 Bidder certifies that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
- 4.6 Bidder certifies that Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
- 4.7 Bidder certifies that Bidder has not solicited or induced any individual or entity to refrain from bidding.
- 4.8 Bidder certifies that Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph:
- A. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
  - B. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of the Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - C. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
  - D. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

**ARTICLE 5 - BASIS OF BID**

- 5.1 Bidder proposes to furnish all labor and materials required for abatement and demolition of the Former Bolton Center School in accordance with the accompanying Bidding Documents, for the Contract Price specified below, subject to additions and deductions according to the terms of the Bidding Documents.
- 5.2 Bidder must complete and return the Unit Price Schedule requested in Section 01220 as part of their bid. Bids received without a completed Unit Price Schedule may be disqualified.
- 5.3 This Bid includes Addenda numbered \_\_\_\_\_.
- 5.4 The proposed Contract Price is:

\_\_\_\_\_ dollars  
(words)

(\$ \_\_\_\_\_ )

(figures)

**Base Bid Items**

<b>Base Bid Item Number</b>	<b>Item Name and Unit Prices Written in Words and Figures</b>	<b>Estimated Quantity</b>	<b>Total Amount of Items (in figures)</b>
1	Mobilization and demobilization, per lump sum, the price of:  _____ ( \$ _____ )	lump sum* =  *Not to exceed 5% of the total Bid price	\$ _____
2	Temporary barriers, construction facilities, traffic regulation, and soil and erosion control measures for project duration, per lump sum, the price of:  _____ ( \$ _____ )	lump sum =	\$ _____

Base Bid Item Number	Item Name and Unit Prices Written in Words and Figures	Estimated Quantity	Total Amount of Items (in figures)
3	Remove and dispose of all asbestos-containing materials (ACM) as specified in Section 02820 and shown on the Drawings, per lump sum, the price of:  _____  (\$ _____ )	lump sum =	\$ _____
4	Remove and dispose PCB-containing building materials with PCB concentrations $\geq 50$ ppm as EPA/TSCA Regulated PCB Bulk Product Waste as identified in Section 02840, per lump sum, the price of:  _____  (\$ _____ )	lump sum =	\$ _____
5	Remove and dispose of all Universal and other regulated wastes as specified in Section 02850, per lump sum, the price of:  _____  (\$ _____ )	lump sum =	\$ _____
6	Excavate and dispose of perimeter soils with PCB concentrations $\geq 50$ ppm as EPA/TSCA Regulated PCB Remediation Waste as identified in Section 02110, per ton, the price of:  _____  (\$ _____ )	Per Ton =  <b>(50 Tons to be used for Comparison Purposes)</b>	\$ _____



<b>Base Bid Item Number</b>	<b>Item Name and Unit Prices Written in Words and Figures</b>	<b>Estimated Quantity</b>	<b>Total Amount of Items (in figures)</b>
7	<p>Demolish and dispose of standing building components, first floor slab, painted lower-level interior partition walls, roofing materials, and all debris at, inside, and around the buildings as mixed non-friable asbestos and PCB Waste (&lt; 50 ppm) or a combination thereof, per lump sum, the price of:</p> <p>_____</p> <p>(\$ _____ )</p>	lump sum =	\$ _____
8	<p>Demolish and dispose of building foundation, walls, floor, footings, and other components and all debris at, inside, and around the foundations as PCB Waste &lt;50 ppm, per lump sum, the price of:</p> <p>_____</p> <p>(\$ _____ )</p>	lump sum =	\$ _____
9	<p>Coordinate, design, and execute a building separation and infill plan for Owner's approval, per lump sum, the price of:</p> <p>_____</p> <p>(\$ _____ )</p>	lump sum =	\$ _____
10	<p>Provide, place, and compact approved fill material within the building footprint/foundation cavity including a minimum of four inches of topsoil and seed, per lump sum, the price of:</p> <p>_____</p> <p>(\$ _____ )</p>	lump sum =	\$ _____

<b>Base Bid Item Number</b>	<b>Item Name and Unit Prices Written in Words and Figures</b>	<b>Estimated Quantity</b>	<b>Total Amount of Items (in figures)</b>
<b>Sub-Total Bid Price Base Bid Line Items, the price of:</b>  _____			\$ _____
(\$ _____ )			
<b>TOTAL Base Bid Price</b>			\$ _____

**BID SUBMITTAL**

BIDDER: *[Indicate correct name of bidding entity]*

By:

*[Signature]* \_\_\_\_\_

*[Printed name]* \_\_\_\_\_

*(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)*

Attest:

*[Signature]* \_\_\_\_\_

*[Printed name]* \_\_\_\_\_

Title: \_\_\_\_\_

Submittal Date: \_\_\_\_\_

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Contact Name and e-mail address: \_\_\_\_\_

Bidder's License No.: \_\_\_\_\_

*(where applicable)*

**END OF SECTION**

SECTION 01110

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Work of the Contract is shown and described in Drawings and Project Manual entitled:

NOTCH ROAD MUNICIPAL CENTER DEMOLITION  
104 Notch Road, Bolton, CT

The Town of Bolton  
November 8, 2024

Tighe & Bond, Inc.  
Middletown, Connecticut

2. The Work includes the following major items:
  - a. Installation and maintenance of sediment and erosion and stormwater control measures in preparation for abatement, cleanup, and demolition activities.
  - b. Deactivation, disconnection, and capping of utilities or confirmation thereof.
  - c. Abatement and disposal of interior asbestos-containing materials.
  - d. Abatement and disposal of window systems including adjacent brick façade as mixed asbestos and PCBs at concentrations  $\geq 50$  parts per million (ppm).
  - e. Abatement and disposal of window systems (Side A – Lower Level) and door caulk as mixed asbestos and PCBs at concentrations  $< 50$  ppm.
  - f. Removal and disposal of universal and other regulated/hazardous building wastes.
  - g. Abatement or demolition/segregation/disposal of exterior asbestos-containing roofing materials.
  - h. Excavation and disposal of building perimeter soils as PCB Remediation Waste ( $\geq 50$  ppm).
  - i. Demolition, containerization, and disposal of the building as PCBs at concentrations  $< 50$  ppm, including disposal/recycling of all PCB-containing metal components.

- 1) Contractor has the option to leave exterior asbestos-containing roofing materials in place during building demolition. If so, then the building must be demolished, containerized, and disposed of as mixed asbestos and PCBs at concentrations < 50 ppm.
  - j. Remove and dispose/recycle non-hazardous site debris, piping, equipment, and refuse as general construction debris.
  - k. Backfill, compact, regrade (as necessary), and restore with loam and grass the foundation openings and other areas impacted by the demolition and soil excavation work.
- B. Significant Related Requirements
1. Town of Bolton Contracting Documents
  2. Technical Specifications
  3. Drawings
- 1.2 SUBMITTALS
- A. Action Submittals
1. Submit copies of all Action Submittals for approval of specific work as detailed in the Technical Specifications, prior to initiating the Work.
- B. Informational Submittals
1. Submit copies of permits or approvals required for the Work, prior to initiating the Work.
- 1.3 PROJECT/SITE CONDITIONS
- A. Permits and Notifications
1. Obtain the permits and approvals listed below:
    - a. Town of Bolton demolition permit
    - b. Asbestos abatement notifications as required by the State of Connecticut Department of Public Health and US Environmental Protection Agency
    - c. Waste transportation and disposal permits, notifications, and approvals necessary to complete the Work
    - d. Permits and licenses of a temporary nature necessary to perform the Work
    - e. Permits and approvals necessary for utility disconnects and abandonment not otherwise obtained or provided by the Town
    - f. Permits for disposal of construction wastes including disposal of cleared and grubbed materials
    - g. Other permits or licenses required for the Contractor's operations or required elsewhere in the Contract Documents and not included herein.

- 2. Obtain required time extensions to permits obtained by the Contractor, if construction authorized by permits has not been completed by the expiration date noted on these permits.
- 3. Permits that require that a representative of the permitting authority or the Owner be present on-site during construction or given the opportunity to observe conditions prior to backfilling or otherwise proceeding with construction. Notify the Owner, Engineer, and the permitting authority prior to performing Work that is governed by the permit.
- 4. Obtain permits and approvals from appropriate jurisdictional agencies and property owners for use of premises not furnished by the Owner, and for all off-site areas.
- 5. Submit copies of permits prior to performance of Work authorized by permits.

**B. Existing Conditions**

- 1. Use of Premises and Off-site Work
  - a. The Work shall occur on the Owner’s property within the limits of Work shown on the Drawings.
  - b. Obtain permits and approvals for use of any land and access thereto that is deemed necessary for the Work, where such land is not available for use by the Owner, including land for temporary construction facilities, access and egress, or for storage of materials.
  - c. Obtain permits and written approvals from appropriate jurisdictional agencies for the use of premises not available for use by the Owner, including all offsite staging areas, borrow pits and waste areas. Submit copies of all permits and approvals to the Owner prior to using areas.
  - d. Provide for the disposal of waste materials off-site in accordance with all applicable laws.
  - e. Adhere to the limits of Work as indicated, to minimize obstruction to traffic and inconvenience to the Owner, adjacent business operations, and general public in the vicinity of the Work, and to protect people and property. Keep fire hydrants on or adjacent to the Work accessible to firefighting equipment at all times.
  - f. Maintain public access to businesses including driveways and parking lots at all times during the Work.

**PART 2 PRODUCTS**

**2.1 MATERIALS FURNISHED BY OWNER**

- A. The Owner will not furnish any materials, labor, or equipment under this Contract.

**PART 3 EXECUTION – NOT USED**

**END OF SECTION**

SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
  - 1. Work Schedule
  - 2. Construction Constraints
  - 3. Vehicle Access
  - 4. Available Work Area
  - 5. Site Usage Plan
- B. Related Requirements
  - 1. Section 01310 - Coordination
  - 2. Section 01325 - Scheduling of Construction

1.2 SUBMITTALS

- A. Incorporate the requirements of this Section in the project schedule submitted under Section 01325.
- B. Action Submittals
  - 1. Submit site usage plan within 15 days of the Notice to Proceed.

1.3 WORK SCHEDULE

- A. Conduct the Work during daylight hours on Monday through Friday, and within the time between 7:00 a.m. and 5:00 p.m. No work is to be done on Owner’s holidays, Saturdays, Sundays or outside of the work hours described above.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 CONSTRUCTION CONSTRAINTS

- A. The following are constraints for the Work. Incorporate these constraints into the schedule required to be submitted under Section 01325.
  - 1. All project milestones must be completed within the timeframes indicated in Section 01325.
  - 2. Contractor is responsible for securing access to or otherwise providing all water and electricity needed to complete the work. Contractor is also responsible for contacting the appropriate utility companies to coordinate temporary and permanent utility shutdowns, as necessary.
  - 3. Contractor is responsible for assuring safe access to the site and work areas.

4. Contractor is responsible for securing the site and maintaining site safety throughout the duration of the project.

3.2 AVAILABLE WORK AREA

- A. All work will be conducted by the Contractor within the Owner's property boundaries with the potential exception of required utility abandonment work, soil erosion control measures and miscellaneous work as shown on the project Drawings. No construction vehicles or activities will be permitted outside the property boundaries.

3.3 SITE USAGE PLAN

- A. Submit a site usage plan showing all proposed staging areas, locations of all office and storage trailers, and material laydown areas. The site usage plan should be a drawing showing the proposed locations and shall include on-site traffic modifications and temporary utilities as may be applicable.

END OF SECTION



SECTION 01220

UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Contractor must fill out and return the requested unit price schedule below as part of their bid submittal. Bids received without a completed Unit Price Schedule may be disqualified.
- B. A unit price is an amount proposed by Bidders as a price per unit of measurement for materials or services that will be added to or deducted from the agreed Contract Sum by Change Order in the event the project Scope of Work is altered.
- C. Unit prices shall include costs of all materials, all direct or indirect expenses of the Contractor or Sub-Contractors, profit, insurance, bonding, and any applicable taxes.
- D. Approximate quantities included in the Specifications and shown on the Drawings are provided to establish an order of magnitude for the amount of material that must be abated. Actual quantities may vary. It is the sole responsibility of the Contractor to visit the site, review the Contract Documents and determine the quantities of materials to be removed when developing their Bid.

PART 2 - EXECUTION

2.1 UNIT PRICE SCHEDULE

- A. Unit Prices in accordance with the following schedule will apply to this Contract. Unit prices include labor, disposal, and all necessary costs and fees.

Item No. 1 – Removal of asbestos-containing door caulk

\$ \_\_\_\_\_ per linear foot.

Item No. 2 – Removal of asbestos-containing cement panel

\$ \_\_\_\_\_ per square foot.

Item No. 3 – Removal of asbestos-containing sink undercoating

\$ \_\_\_\_\_ each.

Item No. 4 – Removal of asbestos-containing interior boiler components

\$ \_\_\_\_\_ per square foot.

Item No. 5 – Removal of asbestos-containing pipe gaskets

\$ \_\_\_\_\_ each.

Item No. 6 – Removal of asbestos-containing pipe fitting insulation (2-6” O.D.)

\$ \_\_\_\_\_ each.

Item No. 7 – Removal of Asbestos-Containing Pipe Insulation (2-6” O.D.)

\$ \_\_\_\_\_ per linear foot.

Item No. 8 – Removal of asbestos-containing floor tile and associated mastic (single layer) on concrete

\$ \_\_\_\_\_ per square foot.

Item No. 9 – Removal of asbestos-containing floor tile and associated mastic (double layer) on concrete

\$ \_\_\_\_\_ per square foot.

Item No. 10 – Removal of asbestos-containing linoleum, backing, and associated adhesive on wood countertop

\$ \_\_\_\_\_ per square foot.

Item No. 11 – Removal of asbestos-containing cove base adhesive and associated vinyl cove base on masonry substrates

\$ \_\_\_\_\_ per square foot.

Item No. 12 – Removal of mixed asbestos-containing and PCB Bulk Product Waste ( $\geq 50$  ppm) exterior window caulk

\$ \_\_\_\_\_ per linear foot.

Item No. 13 – Removal of mixed asbestos-containing and PCB-containing ( $< 50$  ppm) exterior window caulk

\$ \_\_\_\_\_ per linear foot.

Item No. 14 – Removal of mixed asbestos-containing and PCB-containing (< 50 ppm) exterior door caulk

\$ \_\_\_\_\_ per linear foot.

Item No. 15 – Removal of asbestos-containing roofing materials

\$ \_\_\_\_\_ per square foot.

Item No. 16 – Removal of asbestos-containing cement panel (Exterior)

\$ \_\_\_\_\_ each.

Item No. 17 – Removal of asbestos-containing expansion joint caulk (Exterior)

\$ \_\_\_\_\_ per linear foot.

Item No. 18 – Glove Bag Removal and Disposal as Asbestos-Containing Material

\$ \_\_\_\_\_ per glove bag.

Item No. 19 – Preparation of a small containment (for removal of >3 LF/SF, but <10 SF/25LF) using remote decontamination unit (including remobilization, if necessary)

\$ \_\_\_\_\_ per containment.

Item No. 20 – Preparation of a medium-containment (for removal of >10 SF/25SF, but <500 LF/1500 SF) with decontamination unit (including remobilization, if necessary)

\$ \_\_\_\_\_ per containment.

Item No. 21 – Preparation of a large-containment (for removal of >500 LF/1500 SF) with decontamination unit (including remobilization, if necessary)

\$ \_\_\_\_\_ per containment.

Item No. 22 – Disposal of Building Materials as Mixed Non-Friable Asbestos / CTDEEP Regulated PCB Waste (< 50 PPM)

\$ \_\_\_\_\_ per ton.

Item No. 23 – Disposal of Building Materials as TSCA PCB Bulk Product Waste (≥ 50 PPM)

\$ \_\_\_\_\_ per ton.

Item No. 24 – Disposal of Building Materials as CTDEEP Regulated PCB Waste (< 50 PPM)

\$ \_\_\_\_\_ per ton.

Item No. 25- Removal of Paint from concrete as CTDEEP Regulated PCB Waste (within containment)

\$ \_\_\_\_\_ per square foot.

Item No. 26- Removal of Paint from brick as CTDEEP Regulated PCB Waste (within containment)

\$ \_\_\_\_\_ per square foot.

Item No. 27 – Clean Fill Installation, Ordinary Borrow

\$ \_\_\_\_\_ per cubic yard.

Item No. 28 – Assumed PCB Containing Lighting Ballasts

\$ \_\_\_\_\_ each.

Item No. 29 – Mercury Containing Fluorescent Light Tubing

\$ \_\_\_\_\_ each.

Item No. 30 – Mercury Containing Compact Fluorescent Light Bulbs

\$ \_\_\_\_\_ each.

Item No. 31 – Lead Acid Batteries at Exit Signs and Emergency Lights

\$ \_\_\_\_\_ each.

Item No. 32 – Mercury Thermostats/Switches

\$ \_\_\_\_\_ each.

Item No. 33 – Refrigerants within HVAC Units and Refrigerators

\$ \_\_\_\_\_ per gallon.

Item No. 34 – PCB Capacitors at Small Motors

\$ \_\_\_\_\_ per unit.

Item No. 35 – Smoke Detectors (Americium-241)

\$ \_\_\_\_\_ each.

Item No. 36 – Fire Extinguishers

\$ \_\_\_\_\_ Each.

Item No. 37 – Miscellaneous Containerized Cleaning Solvents, Oil, Paint, etc.

\$ \_\_\_\_\_ per gallon.

Item No. 38 – High Intensity Discharge (HID) Light Bulbs

\$ \_\_\_\_\_ each.

Item No. 39 – Miscellaneous Electronic Waste, Cameras, Computers, Monitors, Printers, Modems, Keyboards, Fans, etc.

\$ \_\_\_\_\_ Each.

Item No. 40 – Demolish, manage, and dispose of PCB contaminated foundation walls as CTDEEP Regulated PCB Waste < 50 ppm.

\$ \_\_\_\_\_ per Ton.

Item No. 41 – Excavate, manage, and dispose of PCB contaminated soil as EPA regulated PCB Remediation Waste  $\geq$  50 ppm.

\$ \_\_\_\_\_ per Ton.

Item No. 42 – Excavate, manage, and dispose of PCB contaminated soil as CTDEEP regulated PCB Waste < 50 ppm.

\$ \_\_\_\_\_ per Ton.

END OF SECTION 01220

SECTION 01290

APPLICATION AND CERTIFICATE FOR PAYMENT

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
  - 1. Definition and description of measurement and payment to be used for the Work
  - 2. Payment procedures
- B. Related Requirements
  - 1. Section 01295 - Schedule of Values

1.2 GENERAL

- A. The following paragraphs describe payment procedures for the work to be done under the respective items in the Bid Form.
- B. Each lump sum and unit price will be deemed to include an amount considered by the Contractor to be adequate to cover the Contractor's overhead and profit for each separately identified item.
- C. Except as provided for in Section 01295, no separate measurement or payment will be made for Work called for in Division 0 or Division 1 of the Contract Specifications, unless specifically covered under the Bid items listed below. All costs associated with this Work will be considered incidental to the Contract Bid price.
- D. Division 2 Work will be measured and paid for at the Contractor's unit Bid price or lump sum Bid price as indicated on the Bid form. Those payable Work items, and related prices as Bid, will be the basis for all compensation to the Contractor for Work performed under this Contract. Work not specifically included as a Bid item, but which is required to properly and satisfactorily complete the Work is considered ancillary and incidental to the Bid item Work, and payment for such Work is considered to be included in the values as Bid for payable items. Compensation (including credit to Owner) for all unit Bid price Work will be made based on the measured quantity of Work under the appropriate Bid items.

1.3 LUMP SUM ITEMS

- A. Each lump sum price stated in the Bid form shall constitute full compensation for all labor, equipment, and materials necessary and required to complete the work specified under that particular item, and also all costs for doing related work as set forth in the Contract Documents or implied in carrying out their intent.
  - 1. Measurement
    - a. There will be no measurement of quantities for lump sum items. Periodic partial payments for this Work, included under the Agreement, shall be based on the percent completion of each work item listed in the Schedule

of Values provided under Section 01295 estimated by the Contractor and approved by the Engineer.

2. Payment

- a. The lump sum payment for each work item listed in the Schedule of Values provided under Section 01295 estimated by the Contractor and approved by the Engineer shall be full compensation for furnishing all labor, materials, tools, equipment, waste disposal, and other services necessary for completion of the work item, in its entirety as detailed in the Contract Documents.

1.4 UNIT PRICE ITEMS

- A. Each unit price stated in the Bid form and in Section 01220 Unit Prices shall constitute full compensation for all labor, equipment and materials necessary and required to complete the Work specified under that particular item, and also all costs for doing related work as set forth in the Contract Documents or implied in carrying out their intent.
- B. Payment of the unit price items will only be made for the actual quantity of Work performed in accordance with the Contract Documents.

1.5 PAYMENT PROCEDURES

- A. Informal submittal: Unless otherwise directed by the Engineer:
  1. Make an informal submittal of request for payment by filling in pertinent portions of AIA Document G702, Application and Certificate for Payment, plus continuation sheet or sheets.
  2. Make this preliminary submittal to the Engineer by the 20th of each month.
  3. Revise the preliminary submittal as approved by the Engineer and incorporate the approved payments into the formal submittal.
- B. Formal submittal: Unless otherwise directed by the Engineer:
  1. Make formal submittal of request for payment by filling in the agreed data on AIA Document G702, Application and Certificate for Payment, plus continuation sheet or sheets.
  2. Sign and notarize the Application for Payment.
  3. Submit the original of the Application for Payment, plus six identical copies of the continuation sheet or sheets, to the Engineer.
  4. The Engineer will compare the formal submittal with the approved informal submittal and, if acceptable, will sign the Contractor's Application for Payment, and present the Application to the Owner.

END OF SECTION

SECTION 01295

SCHEDULE OF VALUES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
  - 1. Schedule of Values

1.2 SUBMITTALS

- A. Action Submittals
  - 1. Submit the Schedule of Values for approval within 10 days after the Effective Date of the Agreement.

1.3 SCHEDULE OF VALUES

- A. Schedule of Values shall be a detailed breakdown of the lump sum and unit price Work items showing values allocated to the various elements of the Work.
- B. The format of the Schedule of Values shall be submitted on AIA G703, Application and Certificate for Payment, Continuation Sheet. The Engineer may require additional detailed documentation to support the values in the form of executed purchase orders, subcontracts, or other agreements.
- C. The Engineer will determine the level of breakdown and detail required. The breakdown shall include at a minimum the items listed on the Bid Form. The final document will be the basis of payment requests for the duration of the Contract. No progress payment will be made until the Schedule of Values is approved by the Engineer.
- D. An unbalanced Schedule of Values providing overpayment on items of work performed first will not be accepted.
- E. At the Contractor's option, items for mobilization and demobilization may be included in the Schedule of Values. The combined value shall not exceed 5 percent of the Contract Price, and the values for mobilization and demobilization shall be equal. Payment for mobilization will be included in the first payment request after the Contractor has initiated full-time construction activity. Payment for demobilization will be included in the first payment request after Substantial Completion has been reached and all equipment has been removed from the Site.
- F. At the Contractor's option, an item for bonds and insurance may be included in the Schedule of Values. If included, requests for payment including values for bonds and insurance shall be accompanied by matching invoices.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION



SECTION 01310

COORDINATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
  - 1. Project Management
  - 2. Coordination
  - 3. Project Meetings
- B. Related Requirements
  - 1. Section 01140 - Work Restrictions
  - 2. Section 01325 - Scheduling of Construction

1.2 SUBMITTALS

- A. Incorporate the requirements of this Section, as well as Work which may impact the Owner, or the operations of any adjacent facility or utility, in the project schedule submitted under Section 01325.
- B. Informational Submittals
  - 1. At the pre-construction conference, supply to the Owner the cell phone number of a responsible person who may be contacted during off-hours for emergencies 24 hours a day, seven days a week.
  - 2. Prepare a contact list of phone numbers, including cell phone numbers, and emails for all Project personnel and submit to the Engineer at the pre-construction conference. Include Contractor, Owner, Engineer, and Town personnel including police, fire, and ambulance.

1.3 PROJECT MANAGEMENT

- A. Retain a full-time on-site Superintendent, satisfactory to the Owner and Engineer. The Superintendent shall not be changed except with the consent of the Owner and Engineer. The Superintendent shall be in full charge of the Work conducted at the Site.
- B. Designate a full-time Project Manager, satisfactory to the Owner and Engineer. The Project Manager shall not be changed except with the consent of the Owner and Engineer. The Project Manager will be responsible for managerial operations including but not limited to coordinating labor and equipment, preparing submittals, documenting waste disposal activities, preparing progress meeting agenda and minutes. The Project Manager shall be the first point of contact for Engineer and Owner.
- C. Complete the Work in a continuous uninterrupted operation. Use sufficient personnel and adequate equipment to complete the Work within the Contract Time.

#### 1.4 COORDINATION

- A. The Contractor is responsible for coordinating initial access to the building and any communication with utility companies that the Contractor may request service from including disconnections, abandonment, and documentation of such.
- B. The Contractor is responsible for submitting the Asbestos Abatement Notification form to the Connecticut Department of Health (CT DPH) and associated notification to the US EPA and obtaining any permits required to complete the work. All coordination efforts required to submit the notice and obtain permits is the responsibility of the Contractor.
- C. The Contractor is responsible for coordinating all trucking and waste disposal work including the preparation of all waste profiles and manifests. Engineer will review and provide comment, as needed before asking the Town to sign waste disposal documents.
- D. Coordinate with appropriate utility companies, as well as with the Owner, where the Work crosses or is adjacent to existing utilities.
- E. Coordinate with Eversource for removal of any transformers, utility lines, and poles located at the Site that are required to be removed as part of the demolition.
- F. Do not interfere with the operation of the existing facilities.
- G. Perform all coordination necessary to complete the Work.

#### 1.5 PROJECT MEETINGS

- A. Pre-Construction Conference
  - 1. The Contractor shall be prepared to discuss the following subjects at the Pre-Construction Conference. Documentation for these items is required to be submitted within the time frames included in individual specification sections.
    - a. Project scheduling
    - b. Sequencing of critical path Work items
    - c. Shop Drawing procedures
    - d. Project changes and clarification procedures
    - e. Use of sites, access to Work areas, office and storage areas, security, and temporary facilities
    - f. Contractor safety plan and representative
    - g. Progress payments and procedures
    - h. Required documentation
    - i. Project personnel contact list
- B. Progress Meetings
  - 1. Progress meetings will be held once per week and at other times as requested by the Owner or as required by the Progress of the Work.

2. The Contractor's Superintendent shall attend all progress meetings.
  3. At a minimum, progress meetings will review Work progress, schedule, Shop Drawing submission schedule, Applications for Payment, and other matters needing discussion and resolution.
  4. Review the schedule with all parties to be affected by upcoming work.
  5. Prepare meeting agenda and minutes for each meeting and circulate to the Town and Engineer for review and comment. Agenda are to be distributed at least 2 days prior and minutes must be prepared within 2 days after each meeting.
  6. Review the monthly construction report required under Section 01325.
- C. Attend requested meetings with the Town, Engineer, and/or others to discuss the progress of the Work and address any concerns.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.1 GENERAL**

- A. Submit the required Asbestos Abatement Notification form to the CT DPH and associated notification to the US EPA a minimum of 10 days prior to any asbestos abatement operations.
- B. Notify Call Before You Dig at 1-800-922-4455 at least 72 hours prior to any digging, trenching, rock removal, demolition, borings, backfill, grading, landscaping, or any other earth moving operations.

**3.2 COORDINATION WITH THE OWNER'S OPERATIONS**

- A. Notify the Owner and Engineer, in writing, a minimum of 1 week in advance of commencing Work on site. Work on site shall not occur until all necessary permits are obtained.
- B. Notify the Owner and Engineer, in writing, a minimum of 1 week before commencing any work which may affect the Owner's operations.
- C. Perform all construction activities so as to avoid interference with Owner's operations and the work of others including off-site businesses and residences.
- D. The Owner has the authority to order the Work stopped. Any costs and/or delays associated with these work stoppages due to the Contractor's operation shall be borne by the Contractor.

**3.3 SEQUENCE OF CONSTRUCTION**

- A. Completing the Work will require a specific sequence of construction. The Contractor will be allowed reasonable flexibility in scheduling the construction activities. Provide a detailed construction schedule as required in Section 01325.

**END OF SECTION**

## SECTION 01325

## SCHEDULING OF CONSTRUCTION

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Progress Schedule
- B. Related Requirements
  - 1. Section 01140 - Work Restrictions
  - 2. Section 01310 - Coordination

## 1.2 PROGRESS SCHEDULE

- A. Graphically show the order and interdependence of activities, sequence of Work, how the start of a given activity depends on completion of preceding activities, and how completion of an activity may restrain the start of subsequent activities.
- B. The Work shall be planned by the Contractor and his Project field superintendent in coordination with all Subcontractors and Suppliers whose Work is shown on the Progress Schedule.
- C. Include, at a minimum, the following activities on the Progress Schedule:
  - 1. Submittal and approval of Permits and Work Plans
  - 2. Project mobilization
  - 3. Site fencing, soil erosion and sedimentation control measures
  - 4. Hazardous materials removal
  - 5. Building demolition
  - 6. Site surface demolition
  - 7. Site utility demolition
  - 8. Contaminated Soil Removal/Excavation
  - 9. Backfilling and site restoration
  - 10. Substantial completion and inspection
  - 11. Punchlist
  - 12. Final cleanup
  - 13. Other activities that may be critical to the Progress Schedule
  - 14. All activities of the Owner and the Engineer which affect progress and/or affect required dates for completion of the Work

- D. Take into consideration submittal and permit approval time, the delivery times of equipment and materials, Subcontractors' Work, availability and abilities of workmen, waste hauling and disposal, weather conditions, any restrictions in operations at the Work site, and all other items that may affect completion of the Work within the Contract Time.
- E. The Progress Schedule shall reflect the requirements and constraints outlined in Section 01310, Coordination.
- F. The Progress Schedule shall reflect Work restrictions outlined in Section 01140.
- G. Show information in such detail that duration times of activities will range from one to 15 days. The selection and number of activities shall be subject to the approval of the Owner and Engineer.
- H. The Progress Schedule should show a description of each activity, and activity duration in calendar days.

### 1.3 SUBMITTALS

#### A. Informational Submittals

- 1. Submit an electronic copy of the preliminary Progress Schedule prepared in Microsoft Project in accordance with the General Conditions and Special Conditions and the requirements of this section. Progress schedule must be submitted within 10 days after the Effective Date of the Agreement. Progress Schedule must be approved by the Owner and Engineer before the first progress payment will be made.
- 2. Revised analyses - Within 10 days after receipt of the review comments, submit the revised Progress Schedule in accordance with those comments.

### 1.4 PERIODIC REPORTS

- A. At the first scheduled progress meeting of each month, present a construction report which details the Work performed during the preceding period. The report shall include the following at a minimum:
  - 1. Actual progress of Work. Update the Progress Schedule accordingly.
  - 2. The revised Progress Schedule, showing impacts by the Work progress.
  - 3. Activities or portions of activities completed during the reporting period, and their total value as basis for Contractor's periodic request for payment. Payment made will be based on the total value of such activities completed or partially completed after verification by the Engineer.
  - 4. State the percentage of the Work actually completed and scheduled as of the report date, and the progress along the critical path in terms of days ahead of or behind the dates defined in the Progress Schedule.
  - 5. If the Work is behind the dates set forth in the Progress Schedule, also report progress along other paths with negative slack.

6. Include a narrative which includes:
  - a. A description of problem areas, anticipated and current
  - b. Delaying factors and their impact
  - c. An explanation of corrective actions taken or proposed
7. Show the date of latest revision.

END OF SECTION

## SECTION 01330

## SUBMITTAL PROCEDURES

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Action Submittals
  - 2. Informational Submittals

## 1.2 DEFINITIONS

- A. Action Submittals – includes written and graphic information submitted by Contractor that requires Engineer’s approval.
- B. Informational Submittals – includes information submitted by Contractor that does not require Engineer’s approval. The Engineer will acknowledge receipt of such documents and provide comments when the submittals lack the detail required by the Contract Documents.

## 1.3 ACTION SUBMITTALS

- A. Work Plans and other submittals as specified in individual Sections.
- B. Schedule of Values: In accordance with Section 01295.
- C. Site Usage Plan: In accordance with Section 01140.

## 1.4 INFORMATIONAL SUBMITTALS

- A. Schedule of Submittals
  - 1. Submit a preliminary Schedule of Submittals within 10 days of the Effective Date of the Agreement.
- B. Application for Payment
  - 1. Submit applications for payment in accordance with Section 01290, Application and Certificate for Payment.
  - 2. Submit schedule of stored materials when requesting payment for materials not yet installed.
- C. Contract Closeout Submittals: In accordance with Section 01770.
- D. Schedules - Submit construction progress schedules and schedule updates in accordance with Section 01325.
- E. Statement of Qualifications: Submit evidence of qualification, certification, or registration as required in Contract Documents to verify qualifications of professional land surveyor, engineer, materials testing laboratory, specialty subcontractor, trade, specialist, consultant, installer, and other professionals.
- F. Submittals Required by Laws, Regulations, and Governing Agencies

- 1. Submit promptly, notifications, reports, certifications, payrolls, and other required information as may be required, directly to the applicable federal, state, or local governing agency or their representative.
  - 2. Transmit to Engineer for Owner’s records, one copy of correspondence and transmittals (including enclosures and attachments) between Contractor and governing agency.
- G. Test and Inspection Reports
- 1. Submit test and inspection reports as required by individual Specification sections.
  - 2. Reports shall include identification of product and Specification, project name, date and time of test, type of test, location, test results, interpretation of test results, and other information as required in individual Specification sections.
- H. Health & Safety Plans: When specified in individual Specification sections, prepare and submit a Health and Safety Plan modified or supplemented to include job-specific considerations.
- I. Erosion Control Plan: When specified in Contract Documents or required by local ordinances or regulations, prepare and submit copies of erosion control plans.
- J. Traffic Control Plan: When specified in Contract Documents or required by local ordinances or regulations, prepare and submit copies of traffic control plans.

1.5 PROCEDURES

- A. Coordination
- 1. Prepare and deliver submittals in sufficient time, so that the Work will not be delayed, other related work can be properly coordinated, and there is adequate time for review and resubmission, if required.
  - 2. Provide no less than 10 days for review of submittals from the time received by the Engineer. For submittals that require more than 10 days to review, due to complexity and detail, Engineer will notify Contractor of the circumstances and identify the anticipated date when the submittal will be returned.
  - 3. Re-submittals will be subject to same review time.
  - 4. No extension of time will be authorized due to failure to provide approvable submittals sufficiently in advance of the Work.
- B. Review product data and samples prior to submission and verify and determine:
- 1. Field measurements
  - 2. Conformance with the Contract Documents. Advise the Engineer in writing of any deviations from the requirements of the Contract Documents.
  - 3. Delete or strike out information that is not applicable to the Work.
- C. Submit one electronic copy of each submittal for the Owner and Engineer.



- D. Numbering: Submissions shall be accompanied by a transmittal form referencing the project name and applicable Specification section. Submittals shall be numbered sequentially, with the applicable Specification section and a hyphen preceding the number. (e.g. Submittal number 02120-01). Resubmittals shall bear the same transmittal number with a revision number commencing with "1" (e.g. Submittal number 11330-01-1).
- E. Provide a copy of the Submittal Certification Form (copy attached at the end of this section) which shall be attached to every copy of each submittal. Apply the Contractor's stamp and initials or signature certifying that the submission has been thoroughly reviewed for completeness, compliance with the Contract Documents, coordination with adjacent construction and dimensional compatibility. Items submitted without the stamp or that are incomplete will be returned by the Engineer for rework and resubmission.
- F. Distribute copies of reviewed submittals along with the Engineer's transmittal to concerned parties with instructions to promptly report any inability to comply with the provisions or integrate the requirements with interfacing work.
- G. Partial and Incomplete Submittals
  - 1. Submittals shall be delivered as a complete package by Specification section, unless otherwise reviewed and approved by the Engineer. It is the intent that all information, materials, and samples associated with each Specification section be included as a single submittal for the Engineer's review.
  - 2. Engineer will return entire submittals if preliminary review deems it incomplete including:
    - a. Missing or incomplete Submittal Certification Form
    - b. Insufficient number of copies
    - c. Missing content
  - 3. Partial submittals may be considered, at Engineer's option, only when necessary to expedite the Project.
  - 4. Partial submittals shall be clearly identified as such on the transmittal to identify missing components.
- H. Submittals not required by the Specification will be returned without review or action code.
- I. Resubmission
  - 1. Make corrections and modifications required by the Engineer and resubmit until approved.
  - 2. Clearly identify changes made to submittals and indicate other changes that have been made other than those requested by the Engineer.
  - 3. A maximum of two re-submissions of each shop drawing will be reviewed, checked and commented upon without charge to the Contractor (total of 3 submittals). Any additional submissions which are required by the Engineer to

fulfill the stipulations of the Contract Documents will be charged to the Contractor using the Engineer's standard billing rates.

- J. Distribution
  - 1. Distribute approved Shop Drawings and approved product data to the Project Site and elsewhere as required to communicate the information to Suppliers, Subcontractors, and field personnel.

1.6 ENGINEER'S REVIEW

- A. The Engineer will review submittals for design, general methods of construction and detailing. The Engineer's review and approval of submittals shall not be construed as a complete check nor does it relieve the Contractor from responsibility for any departures or deviations from the requirements of the Contract Documents unless he has, in writing, called the Engineer's attention to such deviations at the time of submission. It will not extend to means, methods, technique, sequences, or procedures of construction (except where specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto.
- B. The Engineer's review of the submittals shall not relieve the Contractor from the responsibility for proper fitting of the Work, or the responsibility of furnishing any work required by the Contract Documents which may not be indicated on the submittals. The Contractor shall be solely responsible for any quantities shown on the submittals.
- C. If the Contractor considers any correction indicated on the submittals to constitute a change to the Contract Documents, the Contractor shall provide written notice to the Engineer at least 7 working days prior to release for manufacture or initiation of the work.
- D. When the submittals have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.
- E. Action submittals as defined in paragraph 1.2 will be reviewed and returned under one of the following codes:
  - 1. Approved (Action Code 1) is assigned when there are no notations or comments on the submittal. Equipment or materials may be released for manufacture, provided that it complies with requirements of the Contract Documents.
  - 2. Approved as Noted (Action Code 2) is assigned when there are notations or comments on the submittal, but the equipment or materials may still be released for manufacture. All notations and comments must be incorporated in the final product. Resubmission is not necessary.
  - 3. Revise and Resubmit (Action Code 3) is assigned when there are notations and comments requiring a resubmittal of the package. Work cannot proceed until the submittal is revised and resubmitted for review.
  - 4. Not Approved (Action Code 4) is assigned when the submittal contains non-specified items or does not meet the requirements of the Contract Documents. It may also be assigned when there is a significant amount of missing material required for the Engineer to perform a complete review. The entire package

must be resubmitted, revised to bring the submittal into conformance. It may be necessary to resubmit using a different manufacturer/vendor to meet the requirements of the Contract Documents.

- F. Informational submittals as defined in paragraph 1.2 do not require approval by the Engineer. Such submittals will be returned under one of the following codes:
  - 1. Receipt Acknowledged (Action Code 5) is assigned when the submittal is provided for documentation purposes and is acknowledged as received. Comments may be noted using this action code.
  - 2. Revise and Resubmit (Action Code 6) is assigned when there are notations and comments requiring a resubmittal of the package.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

**SUBMITTAL CERTIFICATION FORM**

PROJECT: \_\_\_\_\_  
ENGINEER: \_\_\_\_\_ ENGINEER'S PROJECT NO.: \_\_\_\_\_  
CONTRACTOR: \_\_\_\_\_ CONTRACTOR'S PROJECT NO.: \_\_\_\_\_  
  
TRANSMITTAL NO.: \_\_\_\_\_ SUBMITTAL NO.: \_\_\_\_\_  
SPECIFICATION NO.: \_\_\_\_\_ DRAWING NO: \_\_\_\_\_  
DESCRIPTION: \_\_\_\_\_  
MANUFACTURER: \_\_\_\_\_

The above referenced submittal has been reviewed by the undersigned and I/we certify that the materials and/or equipment meets or exceeds the project specification requirements; that field measurements, dimensions, quantities, specified performance criteria, installation requirements, materials, catalog numbers and related materials have been verified; that all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the work has been determined and verified; that review includes all information related to the contractor's sole responsibility for means, methods, techniques, sequences, and procedures of construction and safety; and item has been coordinated with the overall project with:

- NO DEVIATIONS
  
- A COMPLETE LIST OF DEVIATIONS AS FOLLOWS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

GENERAL CONTRACTOR'S STAMP
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## SECTION 01350

## HEALTH &amp; SAFETY PLAN

## PART 1 GENERAL

## 1.1 SUMMARY

## A. The Contractor must:

1. Develop a site-specific Health and Safety Plan (HASP) specifically addressing the potential hazards that may be encountered at the work site. The HASP must include the information described in this specification (as applicable) and meet all applicable OSHA requirements.
2. Furnish all labor, equipment, materials, and employee training for effective implementation of the HASP and worker health and safety protection of all Contractor personnel.
3. Furnish all labor, equipment, materials, and employee training to effectively complete any required air monitoring and/or decontamination.
4. Review the requirements and data provided for the project and supplement the HASP with any additional measures deemed necessary to fully comply with applicable regulatory requirements and to adequately protect personnel on the site.
5. Maintain a copy of the HASP at the worksite, accessible to employees working at the site.
6. Post the emergency response plan section of the HASP, inclusive of emergency alerting and response procedures and directions to the nearest hospital, in a visible location for all workers to see.

## B. Related Sections

1. 02110 – Contaminated Soil Excavation
2. 02220 – Building Demolition
3. 02820 – Asbestos Abatement
4. 02830 – Lead-Based Paint Management
5. 02840 – PCB-Contaminated Building Materials Abatement
6. 02850 – Hazardous Materials Abatement

## 1.2 SITE-SPECIFIC PROJECT CONDITIONS

- A. The Contractor must review and understand all existing information as it relates to potential exposure to subsurface site contaminants, environmental data and reports made available to Contractor.
- B. The Contractor must review and understand all existing information as it relates to potential exposure to hazardous structure/building materials (i.e., asbestos,

polychlorinated biphenyls (PCBs), lead paint, and oil/hazardous materials containers). Site-specific information with respect to potential exposures to hazardous structure/building materials are included in applicable technical specifications contained herein.

- C. The nature of the materials present at the site may require use of special protective clothing and the possible use of respiratory protective equipment, which is intended to help minimize worker exposure to known or suspected site hazards.
  - 1. Levels of personal protection are established in reference standards and generally described for Levels C and D herein.
  - 2. The Contractor must be responsible for determining if a higher level of personnel protection is required based on the criteria outlined in the Contractor's HASP. In the event that the Contractor determines that a level of protection higher than Level D is required, the Contractor's personnel must take the necessary steps outlined in the Contractor's HASP.
  - 3. The Contractor must notify the Engineer and Owner in writing prior to implementing any upgrades in personal protection. The Engineer will review the Contractor's notification and determine the need to notify other applicable agencies.

### 1.3 REFERENCES

- A. OSHA 29 CFR Part 1910 (General Industry standards)
- B. OSHA 29 CFR Part 1926 (Construction Standards)
- C. OSHA Regulation 29 CFR §1910.120 (HAZWOPER)
- D. OSHA Regulation 29 CFR §1926.65 (HAZWOPER)
- E. Applicable state regulations
- F. OSHA Regulation 29 CFR §1926.62 (Lead)
- G. OSHA Regulation 29 CFR §1926.1101 (Asbestos)

### 1.4 DEFINITIONS

- A. CHMM: Certified Hazardous Materials Manager, as certified by the Institute of Hazardous Materials Management.
- B. CIH: Certified Industrial Hygienist, as certified by the American Board of Industrial Hygiene®.
- C. CSP: Certified Safety Professional, as certified by the Board of Certified Safety Professionals.
- D. Site Safety and Health Official (SSHO): The individual located at a job site who is responsible to the Contractor and has the authority and knowledge necessary to implement the HASP and verify compliance with applicable safety and health requirements.

- E. HAZWOPER: Hazardous waste operations and emergency response (HAZWOPER) standards, per the Occupational Safety and Health Administration's (OSHA's) 29 CFR §1910.120 and 29 CFR §1926.65 regulations.
- F. Regulated clean-up site: A site regulated under OSHA's HAZWOPER standards contained in 29 CFR §1910.120 and 29 CFR §1926.65, inclusive of the following:
  - 1. Clean-up operations required by a governmental body, whether federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites,
  - 2. Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA), and
  - 3. Voluntary clean-up operations at sites recognized by federal, state, local or other governmental bodies as uncontrolled hazardous waste sites.
- G. Uncontrolled Hazardous Waste Site: An area identified as an uncontrolled hazardous waste site by a governmental body, whether federal, state, local or other where an accumulation of hazardous substances creates a potential threat to the health and safety of individuals or the environment or both.

#### 1.5 SUBMITTALS

- A. On-site Work must not begin until the HASP has been submitted by the Contractor and accepted by the Owner/Engineer.
- B. Informational Submittals
  - 1. Submit the following within thirty (30) days after the Effective Date of the Agreement.
    - a. A site-specific HASP, including the information described in this Specification as applicable.
      - 1) The HASP must be reviewed, approved, and signed by a CSP, CIH, or CHMM.
      - 2) The Engineer's review is only to determine if the HASP is consistent with the minimum requirements of this specification. Engineer has no control over contractor's health & safety and the means and methods of health & safety implementation. Engineer also does not perform health & safety monitoring of Contractor's Work.
      - 3) The review will not determine the adequacy of the HASP to address all potential hazards, as that remains the sole responsibility of the Contractor.
    - b. Documentation of qualifications and experience of the SSHO.
    - c. Applicable health and safety training records.
  - 2. Submit health and safety certification and training records, including:
    - a. Current certifications of employee's HAZWOPER training, and

- b. Current certification of HAZWOPER supervisor training for project supervisors.

#### 1.6 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor is solely responsible for the health and safety of workers employed by the Contractor, any subcontractor, vendors/manufacturers, site visitors and anyone directly or indirectly employed by any of them.
- B. Provide a designated SSHO for the project.
- C. Pre-arrange emergency medical care services at a nearby hospital or medical clinic, including establishment of an emergency notification process and emergency routes of travel.
- D. Conduct pre-entry and weekly safety meetings with all site personnel, documenting attendance and topics covered.
- E. Develop and implement the site-specific HASP, inclusive of the elements in contained in this specification.
- F. For projects where contaminated media are known, likely, or suspected to be encountered:
  - 1. Monitor air quality in and around the work area using appropriate air monitoring equipment.
  - 2. Develop and implement a respiratory protection program per 29 CFR §1910.134 and 29 CFR §1926.103 for all workers authorized to wear respirators.
  - 3. Record all air quality readings and maintain records on site.
  - 4. Stop work and/or upgrade respiratory protection or personal protective equipment levels if action levels established in the HASP are exceeded.
  - 5. Ensure that the degree and type of respiratory protection provided is protective for the monitored concentrations and individual chemical parameters.
  - 6. Lawfully dispose of all personal protective equipment that cannot be decontaminated.
- G. Work under this contract is being performed on a "Regulated clean-up site", as defined in 29 CFR §1910.120, 29 CFR §1926.65, and Article 1.4 F, above.
- H. The site-specific HASP must include all elements required by OSHA's HAZWOPER standard, as contained in 29 CFR §1910.120(b) and 29 CFR §1926.65(b) and the elements in this specification.
- I. Train all workers assigned to areas where contaminated media are likely to be encountered in accordance with 29 CFR §1910.120(e) and 29 CFR §1926.65(e).
- J. Develop and implement a medical surveillance program per 29 CFR §1910.120(f) and 29 CFR §1926.65(f) for applicable employees.
- K. Provide a Lead Exposure Control Plan in accordance with 29 CFR §1926.62(e)(2).



1.7 HEALTH & SAFETY PLAN (HASP) REQUIREMENTS

- A. The HASP must comply with the requirements of 29 CFR §1910.120(b)(4) and 29 CFR §1926.65(b)(4).
  
- B. The following items must be included/addressed in the HASP:
  - 1. A safety and health risk or hazard analysis for each site task and operation in the workplan.
    - a. A physical hazard evaluation and hazard control plan must be included covering, but not limited to the following, as applicable:
      - 1) Equipment operation
      - 2) Confined space entry
      - 3) Slips, trips, and falls
      - 4) Building collapse
      - 5) Falling debris
      - 6) Encountering unmarked utilities
      - 7) Cold and heat stress
      - 8) Hot work (cutting and welding)
      - 9) Drum and container handling
      - 10) Trench and/or excavation entry
  
  - 2. Employee training assignments to assure compliance with 29 CFR §1910.120(e) and 29 CFR §1926.65(e).
  
  - 3. Personal protective equipment to be used for each site task and operation in the workplan.
    - a. Inclusive of a personal protective equipment program to comply with 29 CFR §1910.120(g)(5) and 29 CFR §1926.65(g)(5).
  
  - 4. Medical surveillance requirements to comply with 29 CFR §1910.120(f) and 29 CFR §1926.65(f).
  
  - 5. The frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.
    - a. The action level (AL) and Permissible Exposure Limit (PEL) for each contaminant must be listed along with the type of monitoring instrument that will be used.
  
    - b. The frequency of the monitoring must also be included (i.e. continuous, daily, weekly, monthly).

6. Site control measures to comply with 29 CFR §1910.120(d) and 29 CFR §1926.65(d).
7. Decontamination procedures to comply with 29 CFR §1910.120(k) and 29 CFR §1926.65(k).
8. An emergency response plan for the safe and effective response to emergencies, including the necessary PPE and other equipment to comply with 29 CFR §1910.120(l) and 29 CFR §1926.65(l);
  - a. Including, but not limited to the following:
    - 1) A map indicating the route to a nearby hospital or medical clinic for emergency medical care
    - 2) Procedures for emergency medical treatment and first aid
    - 3) The names of three (3) Emergency Response Contractors, experienced in the removal and disposal of oils and hazardous chemicals, that the Contractor intends to use in the event of an emergency
    - 4) Site evacuation routes and procedures
    - 5) Emergency alerting and response procedures
9. Confined space entry procedures to comply with 29 CFR §1910.146 and 29 CFR 1926, Subpart AA.
10. A spill containment program to comply with 29 CFR §1910.120(j) and 29 CFR §1926.65(j).

## PART 2 PRODUCTS

### 2.1 AIR MONITORING EQUIPMENT

- A. If organic vapors or total hydrocarbons are known, likely, or suspected to be encountered during the work:
  1. Provide and maintain a portable photo-ionization detector (PID) or flame-ionization detector (FID) capable of detecting organic vapors or total hydrocarbons. Equipment must be sensitive to the 0.5 parts per million (PPM) level.
- B. If hazardous atmospheres (oxygen, hydrogen sulfide, carbon monoxide, methane, etc.) are known, likely, or suspected to be encountered during the work:
  1. Provide and maintain an applicable multi-gas analyzer to measure concentrations in applicable work environments (i.e. confined spaces, trenches, tunnels, buildings, etc.).
- C. If there is a potential for the accumulation of explosive gas:
  1. Provide and maintain an explosimeter (LEL meter).
- D. If there is a potential for exposure to any other airborne contamination, Contractor must determine what monitoring may be required.

- E. If there is a potential for visible dust emissions or the site, dust monitoring must be considered.
  - 1. The Contractor is responsible for monitoring fugitive dust emissions in accordance with applicable local, state, and federal regulations.
  - 2. Equipment must be sensitive to particulate matter less than 10 micrometer in size (PM<sub>10</sub>) at a level of 100 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).
  - 3. Contractor must outline the dust monitoring program in their HASP, including applicable action levels.
- F. All air monitoring equipment must remain the property of the Contractor.
- G. All air monitoring equipment readings must be recorded and be available for federal, state, and/or local regulatory personnel to review.

## 2.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

- A. All PPE must conform to the OSHA requirements, as indicated in the previous Reference Standards Section. Various PPE to be furnished by the Contractor under different levels of protection for their own personnel and subcontractor's personnel include, but are not limited to, the following:
  - 1. Level D Protection:
    - a. Coveralls or Tyvek
    - b. Gloves
    - c. Safety boots/shoes
    - d. Safety glasses
    - e. Hearing protection (for high noise operations)
    - f. Hard hat with optional face shield
  - 2. Level C Protection:
    - a. Air-purifying respirator
    - b. Chemical protective overalls or Coveralls (e.g., Saran coated Tyvek)
    - c. Gloves, inner (disposable, surgical type)
    - d. Gloves, outer (Neoprene, Nitrile, Viton or Butyl)
    - e. Boots, chemical protective, steel toe and shank (Neoprene or Nitrile)
    - f. Booties, chemical protective (disposable PVC)
    - g. Hard hat
    - h. Face shield (if necessary)

3. Levels B and A represent increased levels of personal protection and are described in the Reference Standards.
4. Contractor is fully responsible for all PPE selection (including the various stages of protection), proper use, maintenance, and continuous monitoring.

### PART 3 EXECUTION

#### 3.1 HEALTH AND SAFETY PLANNING AND IMPLEMENTATION

- A. Implement the HASP throughout the execution of all applicable work.
- B. The Contractor must perform all monitoring as detailed in the HASP.
- C. Contractor(s) must implement routine health and safety meetings and any follow-up supplemental briefings.
- D. Provide applicable health and safety training for all personnel who may come in contact with or be exposed to various dangerous, hazardous, or changing site conditions.
- E. Personnel who have not received applicable training and who are not equipped with the required PPE, must not be permitted access to the site by the Contractor during the course of the work that may result in potential exposures to unsafe or hazardous site conditions.
- F. All personnel, including personnel for subcontractors, who must maintain 40-hour OSHA training, must provide certificates of completion for the applicable 8-hour OSHA refresher course.

#### 3.2 DUST CONTROL AND MONITORING

- A. Implement fugitive dust suppression to prevent unacceptable levels of dust resulting from the work. Dust suppression methods must be subject to review by the Engineer. Supervise fugitive dust control measures and monitor airborne particulate matter as required.
- B. The Contractor must periodically monitor dust conditions. The dust monitoring results must be compared to a permissible concentration for PM<sub>10</sub> of 150 µg/m<sup>3</sup>. If a time-weighted average exceeds this dust action level or if visible dust is observed outside the immediate work area, the Contractor must implement dust control measures. Dust monitoring records must be provided to Engineer.
- C. Additional dust control and monitoring requirements may be necessary based on the contaminants present at the Site. The Contractor must determine what additional control measures and monitoring requirements are necessary.

#### 3.3 PERSONNEL AND EQUIPMENT DECONTAMINATION

- A. All equipment must be provided to the work site free of contamination. Engineer may prohibit from the site any equipment which in his opinion has not been thoroughly decontaminated prior to arrival. Any decontamination of Contractor's equipment prior to arrival at the site must be at the expense of Contractor. Contractor is

prohibited from decontaminating equipment on the project site which is not thoroughly decontaminated prior to arrival.

- B. The Contractor must furnish labor, materials, tools, and equipment for decontamination of all personnel, equipment and supplies which are used to handle contaminated materials.
- C. Properly store and dispose of contaminated PPE and all other generated decontamination waste.

### 3.4 INCIDENT REPORTING

- A. The Contractor must comply with all accident and/or incident reporting requirements, including the following:
  - 1. Should any unforeseen safety-related factor, hazard, or condition become evident during the course of the work, the Contractor must immediately take action to establish, maintain, and secure the site and working conditions. This must be followed by immediate notice to the Owner and Engineer.
  - 2. If injury to any person on-site occurs, the Contractor must immediately report the incident to the Owner and Engineer. Corrective actions must be implemented.

END OF SECTION

SECTION 01570

TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
  - 1. Dust control
  - 2. Drainage and erosion control
  - 3. Haybales and siltation fence
  - 4. Sediment trapping devices

1.2 SUBMITTALS

- A. Informational Submittals
  - 1. Construction Sequencing Plan
  - 2. Materials proposed for use in dust control
- B. Action Submittals
  - 1. Product Data, Cutsheets, Material Certifications for all products proposed for use in the execution of the Work:
    - a. Haybales, siltation fence, mulch, and sediment trapping devices

1.3 REQUIREMENTS AND RESTRICTIONS

- A. Control and abate siltation, sedimentation, erosion and pollution of all waters, and underground water systems, throughout the life of the contract.
- B. Do not refuel equipment or machinery within twenty-five (25) feet of any watercourse or storm drainage system.
- C. Do not place materials resulting from construction activities in, or contribute to, the degradation of an adjacent wetland or watercourse. Dispose of any material in accordance with these Specifications and the Connecticut General Statutes, including but not limited to, Sections 22a-207 through 22a-209.
- D. Submit, in writing, a construction sequencing plan to be reviewed and approved by the Engineer and Owner prior to the commencement of any construction.
- E. When dewatering surface runoff is necessary, do not discharge pumps directly into any drainage system. Prior to dewatering, submit to the Owner and the Engineer, for their review, a written proposal for specific methods and devices to be used. Detail the methods and devices to be used, including but not limited to, pumping the water into a temporary sedimentation bowl, installation of sump pits, providing surge protection at the inlet and outlet of pumps, or floating the intake of the pump, or other methods to minimize and retain the suspended solids.

- F. Do not dump oil, chemicals or other deleterious materials on the ground. Provide a means of catching, retaining, and properly disposing of drained oil, removed oil filters, or other deleterious material. All spills of such materials shall be reported immediately to the CTDEEP.
- G. Do not apply herbicides or pesticides to the Site.
- H. Inspect temporary and permanent erosion and sedimentation controls immediately after each rainfall and daily during prolonged rainfall. Maintain all erosion and sedimentation control devices in a functional condition in accordance with the Contract Documents, manufacturer's guidelines and the latest edition of the "Connecticut Guidelines for Soil Erosion and Sediment Control", as amended. In the event that such devices are not maintained in accordance with these documents, and the failures are not corrected within 48 hours after receipt of written notice, the Owner may proceed to remedy the failures specified in the notice. The cost thereof will be deducted from monies due the Contractor under the contract or under any other contract.

## **PART 2 PRODUCTS**

### **2.1 HAYBALES**

- A. Haybales required for siltation control shall be wire tied bales of the type normally used for siltation or erosion control or construction projects.

### **2.2 FILTER FABRIC**

- A. Filter fabric siltation fencing shall be a woven filter fabric having a weight of at least 2.5 ounces per square yard, a thickness of at least 17 mils, a coefficient of permeability of not less than 0.0009 centimeters per second and allows a water flow rate of a minimum 40 gallons per minute per square yard. The material shall have a high sediment filtration capacity, high slurry flow and minimum clogging characteristics. The material shall be equal to FW-300 as manufactured by Mirafi, Inc., Charlotte, North Carolina; Amoco 2130 by Nilex, Inc., Centennial, CO; MISF 180 by Mutual Industries, PA; or equal.

### **2.3 SEDIMENT TRAPPING DEVICES**

- A. Sediment trapping devices shall be Siltsack®, Dandy Bag II®, or equal.

## **PART 3 EXECUTION**

### **3.1 DUST CONTROL**

- A. Control dust during the Work.
- B. Prevent dust from becoming a nuisance or hazard. During demolition and other activities all work areas are to be policed and controlled to prevent spreading of the material.
- C. Control dust during the work on-site using calcium chloride and/or water.
- D. During the Work on-site, all paved road and driveway surfaces shall be scraped and broomed free of accumulated materials on a daily basis. The surfaces shall be hosed down or otherwise treated to eliminate active or potential dust conditions and the natural road or wearing surface shall be exposed.

- E. Ensure that the existing equipment, facilities, and occupied space adjacent to or nearby areas of the work do not come in contact with dust or debris as a result of demolition, excavation or surface preparation for coatings.

### 3.2 DRAINAGE AND EROSION CONTROL

- A. Control erosion and siltation during the Work through haybales, siltation fencing, diversion and control of storm water run-off, ponding areas and similar methods.
- B. Provide and maintain sediment trapping systems.
- C. Discharge surface runoff from any disturbances to the site into silt containment basins. Utilize siltation prevention measures including haybale and geotextile fences before discharge to drainage systems.
- D. Install sediment trapping devices in catch basins located in existing paved areas with sediment trapping devices to minimize the transport of sediment through the subsurface stormwater collection system.

### 3.3 SILTSACK®

- A. Install SILTSACK® in all drainage inlet structures and drywells on site and along the roadway and as otherwise directed.
- B. Install the SILTSACK® by removing the grate and placing the sack in the opening. Hold approximately 6 inches of the sack outside the frame. This is where the lifting straps are located. Replace the grate to hold the sack in place.
- C. Remove the SILTSACK® by taking two pieces of 1" diameter rebar and placing them through the lifting loops on each side of the sack to facilitate the lifting of the SILTSACK®.
- D. Empty the SILTSACK® when the restraint cord is no longer visible. Place it where the contents will be collected. Place the rebar through the lift straps (connected to the bottom of the sack) and lift, turning the SILTSACK® inside out and emptying the contents. Clean out and rinse. Return the SILTSACK® to its original shape and replace in the basin.

### 3.4 HAYBALES AND SILTATION FENCE

- A. Place and maintain both haybales and a staked filter fabric siltation fence as shown on the Drawings or required by permit.
- B. Install haybales by anchoring bales butted together to existing ground with at least 2 stakes per bale. The stake shall be a minimum of 1-inch square cross section and shall be long enough to penetrate 12 inches into the ground. Replace deteriorated haybales. Remove and dispose of the haybales following the successful growth of vegetation in the areas disturbed by the construction. Haybales shall not be removed until their removal is approved by the Engineer.
- C. Install a filter fabric siltation fence in addition to the staked haybales, prior to construction and remove after full surface restoration has been achieved. Install the siltation fence parallel and immediately adjacent to the haybales as shown on the Drawings. Install as follows:



1. Hand shovel excavate a small trench on the upstream side of the desired fence line location.
2. Unroll the siltation fence system, position the post in the back of the trench (downhill side), and hammer the post at least 1½ feet into the ground.
3. Lay the bottom 6 inches of the fabric into the trench to prevent undermining by storm water run-off.
4. Backfill the trench and compact.

3.5 CLEANING

- A. Remove any sediment that builds up around the haybales or catch basins.
- B. Clean sediment trapping devices periodically during the Work. Devices shall be cleaned on a weekly basis, or more frequently if the devices become clogged.
- C. Clean catch basins that collect sediment as a result of the Work.

END OF SECTION

SECTION 01725

PRESERVATION AND RESTORATION OF PROJECT FEATURES

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes
  - 1. Protection and replacement of trees, shrubs, signs, property markers, fences, and related project features.
  - 2. Taking precautions, providing programs, and taking actions necessary to protect public and private property and facilities that are outside the demolition scope from damage.

1.2 DEFINITIONS

- A. Underground Structures
  - 1. Underground structures are defined to include, but not be limited to, sewer, water, gas, and other piping, and manholes, chambers, electrical and signal conduits, tunnels and other existing subsurface work located within or adjacent to the limits of the Work.
  - 2. Underground structures known to the Engineer are shown on the Drawings to the extent that locations are available. This information is shown for the assistance of the Contractor in accordance with the best information available, but is not guaranteed to be correct or complete. The Contractor shall be responsible for checking on the actual locations of water, sewer, gas electric and telephone service connection lines to avoid potential interferences.
- B. Surface Structures
  - 1. Surface structures are defined as existing buildings, structures, and other facilities above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 REPAIR/RESTORATION

- A. Trees, shrubs, and similar items shall not be removed except where indicated on the drawings or as necessary to access the required work, as approved by the Engineer. Items to be removed shall be clearly marked as directed by the Engineer. If objects not to be removed are damaged or removed, they shall be repaired or replaced to their original condition.

- B. Trees and shrubs on private property, which are removed or damaged by the Contractor shall be replaced in kind.
- C. Signs, fences, property markers, walls, guard rails and other public or private property that are outside the demolition scope shall be replaced in kind if damaged. Supports and protective devices required shall be provided.
- D. Underground and Surface Structures
  1. In the event of damage, injury or loss to existing utilities and structures that were not indicated to be removed or abandoned, whether shown on the Drawings or not, make all reasonable efforts to facilitate repairs and to mitigate the impact of such events upon the utility or structure owner's normal operations. Restore the existing utility or structure to the condition required by the owner of the utility or structure or at least to the condition found immediately prior to the Work. In the event that the utility owner elects to make the repairs, provide all reasonable access and assistance, and reimburse the utility owner for the cost of repairs. If utility service is interrupted due to damage to facilities, alternate facilities shall be provided.
  2. All other existing surface facilities, including but not limited to, guard rails, posts, guard cables, signs, poles, markers and curbs which are temporarily removed to facilitate the Work shall be replaced and restored to their original condition at the Contractor's expense unless otherwise indicated in other sections of these specifications.
  3. Wherever water, sewer, gas or petroleum mains, electric or telephone lines, cables or other utilities and structures are encountered and may be in any way interfered with, inform the Engineer and the appropriate utility company. Cooperate with the Engineer and utility company in the protection, removal, relocation, and replacement of structures and facilities.
  4. Prior to proceeding with any demolition or construction, notify in writing owners of utilities and structures within the vicinity of the proposed Work.
  5. Work affecting water distribution systems, which will take fire hydrants out of service, must be coordinated with the local fire department. The Contractor shall be prepared to restore fire flows in the event of an emergency or to provide for temporary fire flow service in accordance with the requirements of the local fire department.
  6. Materials used for relocation or replacement of utilities and structures shall be of an equivalent material, type, class, grade and construction as the existing or as approved by the respective owners thereof, unless otherwise shown or specified.
  7. When any survey monument or property marker, whether of stone, concrete, wood or metal, is in the line of any trench or other demolition or construction work and may have to be removed, notify the Engineer in advance of removal. Under no circumstances shall any monument or marker be removed or disturbed by the Contractor or by any of his Subcontractors, employees or agents, without the permission of the Engineer. Monuments or markers removed or disturbed shall be reset by a land surveyor licensed in the State where the Work is located

at the Contractor's expense. Should any monuments or markers be destroyed through accident, neglect or as a result of the Work under this Contract, the Contractor shall, at his own expense, employ a land surveyor licensed in the State where the Work is located to re-establish the monument or marker.

### 3.2 PROTECTION

- A. The construction of certain portions of the project may require excavation within the root systems of trees. Roots with a diameter of 2 inches or more within the excavation shall not be cut. If necessary, excavation shall be made with small powered equipment or by hand to comply with this requirement. It may be necessary to excavate from more than one direction to avoid damage to the roots.
- B. The trunks of trees that are to remain and are within the swing radius of the excavating machine bucket when fully extended shall be wrapped with burlap and 2 inch by 4 inch protective wood slats (8 inch spacing maximum) wired around the circumference of the trees to protect them from damage.
- C. Tree limbs shall not be cut except upon written approval of the Owner and the Engineer. Tree limbs cut shall be painted with approved forestry paint manufactured specifically for that purpose.
- D. Underground and Surface Structures
  - 1. Sustain in their places and protect from direct or indirect injury underground and surface structures designated to remain within or adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure. Before proceeding with the work of sustaining and supporting such structure, satisfy the Engineer that the methods and procedures to be used have been approved by the party owning same.
  - 2. Pay utility service company charges related to the temporary support of utility poles if required to complete the Work.
  - 3. Assume risks associated with the presence of underground and surface structures within or adjacent to the limits of the Work. The Contractor shall be responsible for damage and expense for direct or indirect injury caused by his Work to any structure. Immediately repair damage caused by the Work to the satisfaction of the owner of the damaged structure.

END OF SECTION

## SECTION 01770

## CLOSEOUT PROCEDURES

## PART 1 GENERAL

## 1.1 SUMMARY

## A. Section Includes

1. Documentation required for the transfer of the completed Work to Owner.
2. Final cleaning and site restoration

## 1.2 DEFINITION

- A. Closeout is defined to include general requirements near the end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 13. Time of closeout is directly related to "Substantial Completion".

## 1.3 SUBMITTALS

## A. Closeout Submittals

1. Warranties and Bonds
2. Evidence of payment and release of liens
3. List of Subcontractors, service organizations, and principal vendors
4. Consent of surety as to release of final payment and retainage

## 1.4 SUBSTANTIAL COMPLETION

- A. Within ten (10) days following receipt of Contractor's request for substantial completion inspection, the Engineer will either proceed with inspection or advise Contractor of prerequisites not fulfilled.
- B. Following initial inspection, the Engineer will either authorize Certificate of Substantial Completion, or advise Contractor of Work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially complete. Results of completed inspection will form initial "punch-list" for final acceptance.
- C. Should the Engineer consider that Work is substantially complete, the Contractor shall prepare, and submit to Owner a list of items to be completed or corrected, as determined by the inspection.
- D. The Engineer will authorize the Certificate of Substantial Completion.
- E. Complete work listed for completion or correction, within designated time.
- F. Should the Engineer order that work list is not substantially complete, he shall notify Contractor in writing stating reasons.

- G. Complete work, and send second written notice to Engineer certifying that Project, or designated portion of Project, is substantially complete.
- H. Engineer will re-inspect work.

1.5 PREREQUISITES TO FINAL ACCEPTANCE

- A. In addition to the requirements of the General Conditions, submit prior to requesting Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:
  - 1. Submit certified copy of Engineer's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance.
  - 2. Submit record drawings, specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar record documents as specified herein.

1.6 FINAL ACCEPTANCE

- A. Within ten (10) days following receipt of contractor's notice that the work has been completed, including "punch list" items from earlier inspections, Engineer will re-inspect the work. Upon completion of re-inspection Engineer will either notify Contractor in writing of work not completed or obligations not fulfilled as required for final acceptance of request Contractor submit evidence of payments, release of liens and final application for payment as an indication of final acceptance.
- B. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Engineer certifying that work is complete and Engineer will re-inspect work.
- C. Should Engineer be required to perform second inspections because of failure to work to comply with original certifications of Contractor, The Owner will compensate Engineer for additional services, and deduct amount paid from final payment to Contractor. Engineer's compensation will be at a maximum rate of two hundred and twenty-five dollars (\$225) per hour.

1.7 PROJECT CLOSEOUT DOCUMENTS

- A. Closeout Documents
  - 1. Submit to the Engineer, final completed copies of the Waste Shipment Records (WSR), signed by all transporters and the designated disposal site owner/operator.
  - 2. Submit to the Engineer copies of all Contractor's logs and all worker certifications.
  - 3. Submit to the Engineer copies of all OSHA personal air monitoring results.
  - 4. **Final payment will be withheld until receipt of all the above documentations to Owner's/Engineer's satisfaction.**

## 1.8 FINAL PAYMENT

- A. Refer to General Conditions, for procedures relating to final inspection and payment.
- B. The Contract shall be considered complete and final payment made, only when:
  - 1. All provisions of the Contract Documents have been strictly adhered to.
  - 2. The project and premises have been left in good order, including removal of all temporary construction, wastes, Contractor-owned and extraneous materials.

## 1.9 RECORD DRAWINGS

- A. During progress of work maintain two sets of contract drawings, shop drawings, and any special drawings with mark-up of actual installation which vary substantially from the work as originally shown.
- B. When shop drawings are marked-up, mark cross-reference on contract drawings at corresponding location.
- C. Mark-up important additional information which was either shown schematically or omitted from original drawings. Give particular attention to information on work concealed, which would be difficult to identify or measure and record at a later date.
- D. Note alternative numbers, change order numbers and similar identification.
- E. Require each person preparing mark-up to initial and date mark-up.

## 1.10 RECORD SPECIFICATION

- A. During progress of the work, maintain two copies of specifications, including addenda, change orders and similar modifications issued in printed form during construction, and mark-up variations (of substance) in actual work in comparison with text of specifications and modifications as issued. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Note related record drawing information and product data, where applicable.

## PART 2 PRODUCTS – NOT USED

## PART 3 EXECUTION

### 3.1 CLEANING

- A. Clean job site and all work areas to the Engineers satisfaction.
- B. Remove and entirely dispose of material or debris from the site or that has washed, flowed or has been placed in existing watercourses, ditches, gutters, drains, pipe, or structures, for work done under the Contract work limits. Leave ditches, channels, drains, pipes, structures, and watercourses in a clean and neat condition upon completion of the Work.

- C. Restore or replace any public or private property damaged or removed during the course of the Work. Property shall be returned to a condition at least equal to that existing immediately prior to the beginning of operations. Complete all highway or driveway, walk, and landscaping work using suitable materials, equipment and methods. Perform restoration of existing property, signs or structures promptly as work progresses; do not leave restoration work until the end of the Contract Time.

END OF SECTION



## SECTION 02110

## CONTAMINATED SOIL EXCAVATION

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Excavation, handling, stockpiling, and temporary storage of Contaminated Soil
  - 2. Movement and placement of Contaminated Soil into a temporary controlled stockpile area
  - 3. Other work involving the handling of contaminated materials which may be required including but not limited to miscellaneous facility component removal, removal of obstructions, and any incidental work related thereto
- B. Related Sections
  - 1. Section 01350 - Health & Safety Plan
  - 2. Section 02120 - Transportation and Disposal of Contaminated Materials
  - 3. Section 02315 - Excavation, Backfill, and Compaction
  - 4. Section 02840 - PCB Contaminated Building Materials Abatement

## 1.2 REFERENCES

- A. Regulations of Connecticut State Agencies (R.C.S.A) Sections 22a-133k-1 through 22a-133k-3
- B. 40 CFR Part 761, Toxic Substances Control Act (TSCA)
- C. 40 CFR Part 261, Identification and Listing of Hazardous Waste
- D. 40 CFR Part 268, Land Disposal Restrictions

## 1.3 DEFINITIONS

- A. Natural Soil: Soil in which all substances naturally occurring therein are present in concentrations not exceeding the concentrations of such substance occurring naturally in the environment and in which soil no other substance is analytically detectable.
- B. Polluted Soil: Means soil affected by a release of a substance at a concentration above the analytical detection limit for such substance but at concentrations below Residential Direct Exposure Criteria or GA Pollutant Mobility Criteria, as these terms are defined in section 22a-133k-1 of the Regulations of Connecticut State Agencies.
- C. Contaminated Soil: Means soils or fills affected by a known or suspected release and determined, or reasonably expected to contain substances exceeding Residential Direct Exposure Criteria or GA Pollutant Mobility Criteria, as these terms are defined in section 22a-133k-1 of the Regulations of Connecticut State Agencies.

- D. PCB Remediation Waste: As defined in TSCA, generally meaning soil or other porous media contaminated by a release of PCB containing material with a concentration greater than or equal to 50 parts per million (ppm).
- E. Clean Fill: Means (1) natural soil and (2) rock, ceramics, uncontaminated brick and concrete.
- F. Special Handling: Methods used to excavate, collect, grade, load, move, transport, stockpile, dispose, or otherwise manage a contaminated material or contaminated soil are such that (1) the spillage, loss, co-mingling, or uncontrolled deposition of such material is minimized, (2) personal exposure to contaminants present in such a material are minimized, (3) the adverse impacts to the community and the surrounding environment from contaminants present in such material are minimized, (4) all applicable regulatory requirements applicable to such activity are satisfied.

#### 1.4 QUALITY ASSURANCE

- A. All Excavation, Trenching, and related Earth Retention Systems shall comply with the requirements of OSHA excavation safety standards (29 CFR Part 1926 Subpart P) and other State requirements. Where conflict between OSHA and State regulations exists, the more stringent requirements shall apply.
- B. All contaminated material excavated or otherwise collected, consolidated and managed during the course of the work will require Special Handling in accordance with these specifications, Contractor Health and Safety Plan, and all applicable permits, approvals, authorizations, and Regulations.
- C. Perform the handling of contaminated materials with equipment and techniques in accordance with the performance requirements defined in this specification.

#### 1.5 SUBMITTALS

- A. Prior to the start of work, prepare and submit the following items. Do not commence work activities until submittals are approved.
  - 1. Work schedule two weeks prior to commencement of work.
  - 2. Written Contractor Work Plan that summarizes the Contractor's means and methods related to the Contaminated Soil and PCB Remediation Waste excavation, management, and disposal.
    - a. The Work Plan must include management and disposal of Contaminated Soil and PCB Remediation Waste.
    - b. The Work Plan must include information on how and where wastes will be stored, marked, and disposed of, and how field equipment will be decontaminated.
    - c. A description of the waste load-out process and route to disposal containers must also be included.
    - d. The plan must also address PPE, worker health and safety training, and decontamination procedures.
    - e. The Work Plan must include type of materials, equipment, machines, vehicles, etc. anticipated to be used during remediation and general summary of the processes.

- f. Copies of PCB awareness training for all workers and supervisors involved with the work. Awareness training must cover the following at a minimum:
  - 1) Dangers inherent in handling PCBs and proper work procedures, worker protective measures, dust suppression methods, waste containerization, and disposal requirements.
- g. The Contractor Work Plan must be reviewed and accepted by the Engineer.
  - 1) Review of Contractor's Work Plan does not constitute approval of any specified means, methods and health and safety measures to be implemented.
  - 2) The review will be for general compliance with this specification and associated applicable State and Federal PCB regulations.
- 3. Certification signed by the Contractor stating that the Contractor will comply with all State of Connecticut and Toxic Substances Control Act (TSCA) requirements for PCB removal and disposal.
- 4. Pertinent information relating to the transportation and disposal of PCB-containing materials.
  - a. This includes names of transporters and disposal facilities to be used including proof of permit, license, or authorization to transport and dispose of PCB-containing materials in all affected states.
  - b. The Contractor must include information related to disposal facilities' ability to accept waste containing PCBs and other contaminants known to be part of the waste stream.
  - c. The Contractor must provide the Engineer draft copies of all waste profiles and manifests for review prior to Owner / disposal facility signature.
- B. Contract Closeout Submittals (throughout project and prior to authorization of final payment):
  - 1. Records of the amounts of waste generated by waste type.
  - 2. Evidence of lawful disposal of all PCB wastes generated.

**PART 2 PRODUCTS – NOT USED**

**PART 3 EXECUTION**

**3.1 GENERAL**

- A. Provide all employees and subcontractor(s) with personal protective equipment and protective clothing consistent with the levels of protection for this work as indicated in Contractor's Health and Safety Plan.
- B. Perform all contaminated material handling operations in accordance with standard engineering practices applicable to such activity, according to US EPA and CTDEEP regulations, and according to the provisions of Contractor Health and Safety Plan. Utilize methods which consider the health and safety of all Contractor and subcontractor personnel, support personnel, Engineer and his representatives, and the surrounding environment.

- C. All site health and safety controls shall be fully established and in operation prior to beginning any contaminated material handling activity. Site controls shall include but not be limited to work zones properly barricaded, decontamination facilities, air monitoring, and all support equipment and supplies including personal protective equipment. Comply with the requirements of Section 01350, Health and Safety Plan.
- D. Minimize the spread of contaminated materials during handling. Transport vehicles used to move Contaminated Soil at the Project Site shall be free from leaks. Trucks or other conveyances deemed unacceptable for use by Engineer shall not be used for the movement of contaminated materials.
- E. Keep work areas, including but not limited to, areas adjacent to excavations, roadways leading to and from excavation areas, driveways, parking areas, and public roadways free of contaminated materials. If such materials are deposited, spilled, or spread, such material shall be removed promptly, and properly disposed of to the satisfaction of Engineer no later than the end of each working day or as requested by Engineer.
- F. Owner is the generator and will sign all manifests and bills of lading. Except for materials required to be transported under manifest, transport all Contaminated Soil material under bills of lading (prepared by Contractor) regardless of the chemical quality of the soils.

### 3.2 EXCAVATION OF CONTAMINATED MATERIALS

- A. Contaminated materials excavation is required to remove PCB Remediation Waste soils from the exterior edge of the building to be demolished, as shown on Drawing Env-1 Soil Remediation Plan. Contaminated soil may also be encountered during potential excavation work required for utility disconnects or other subsurface exploration needed to facilitate the Work.
- B. Perform excavation in accordance with the requirements of Section 02315, Excavation, Backfill, and Compaction, and this section.
- C. Excavate known or potentially contaminated soil and PCB Remediation Waste to the necessary depth and horizontal limits to achieve the remedial objectives and/or as directed by Engineer.
- D. Engineer will assess field conditions to determine if additional excavation is required to achieve remedial objectives. This evaluation may require Engineer to work in close proximity to Contractor's excavation equipment, and may require frequent pauses in the work. Contractor shall work in a cooperative manner at all times during these operations to ensure the safety of Engineer, and to allow for thorough field evaluations to be conducted.
  - 1. When contaminated material excavation is undertaken, Engineer will make the final determination as to the limits of excavation required to achieve remediation objectives. Such limits may be greater than or less than the limits identified in 3.2A and shall be based upon actual conditions encountered at the time of excavation.
  - 2. If required, Engineer will define those areas beyond the limits originally indicated where additional contaminated material excavation shall be required based upon field observations or analytical testing results.

- E. Minimize the spread and loss of contaminated materials during excavation activities.
  - 1. Following excavation, transport contaminated materials directly to the temporary controlled stockpile area for stockpiling. Excavated contaminated materials shall not be placed directly on the ground.
- F. Employ methods necessary to isolate contaminated materials from non-contaminated soils to the degree practicable.
- G. Segregate construction debris from excavated contaminated materials at the point of excavation, prior to the movement of contaminated materials from excavation areas. Engineer may evaluate debris during excavation to determine if such material can be designated uncontaminated general demolition material.
- H. Open excavations represent a substantial hazard. Contractor shall implement measures as appropriate to secure open excavations while awaiting Engineer's confirmation test results from soils (refer to Item 3.5) or any other period when excavations remain open.
- I. Implement measures to divert surface water around excavation sites to prevent water from directly entering into open excavations.

### 3.3 BACKFILL

- A. Backfill excavations in accordance with Section 02315, Excavation, Backfill, and Compaction as soon as possible after Engineer has indicated that test results confirm remediation objectives have been achieved and backfilling may proceed.
- B. Contractor may propose to Owner / Engineer means other than backfilling to secure remedial excavations prior to building demolition.

### 3.4 UNFORESEEN CONTAMINATED MATERIALS

- A. In the event that unforeseen contaminated materials are encountered during the course of the work, permit the Engineer sufficient time to devise an appropriate course of action based upon the conditions present.
  - 1. Until such appropriate course of action is devised, Contractor shall secure the work area in question such that it does not pose a health and safety risk.
  - 2. Engineer will provide Contractor with a scope of work and performance requirements for the collection, consolidation, removal or excavation of unforeseen contaminated material. Contractor shall then undertake contaminated material remediation with equipment and techniques established by Contractor in accordance with said scope of work and performance requirements.
- B. Contaminated material remediation shall be performed in accordance with the scope of work outlined in Item 3.4.A.2 and in accordance with this specification.

### 3.5 CONFIRMATION TESTING BY ENGINEER

- A. At such time the Engineer is satisfied that the limits of contaminated material have been reached, Engineer may perform confirmation sampling to confirm remediation objectives have been achieved.

- B. Contractor is hereby notified that laboratory turnaround time for the analysis of confirmation samples may be up to 7 working days from date of collection. No claim for delay will be considered based upon Contractor failing to accommodate the laboratory turnaround time as defined herein.
- C. Engineer will inform Contractor if test results confirm remediation objectives have been achieved and backfilling may proceed.
- D. If additional contaminated material excavation or removal is required, Engineer will define those areas beyond the limits originally indicated where additional contaminated material excavation or removal shall be required.

### 3.6 STORAGE OF EXCAVATED MATERIALS

- A. Excavated contaminated material shall be temporarily stockpiled on-site. Stockpile contaminated soils in an area designated by the Engineer in such a manner to protect existing site surface, materials and structures from contamination, runoff and erosion. Place the contaminated soil on a minimum of 6 mil polyethylene sheeting and at the end of each day the stockpiled soil shall be covered with 6 mil polyethylene sheeting and secure the covering to prevent the stockpile from becoming uncovered due to winds.

### 3.7 DUST CONTROL

- A. Implement fugitive dust suppression to prevent unacceptable levels of dust resulting from handling operations associated with contaminated materials. Dust suppression methods shall be subject to approval from Engineer. Supervise fugitive dust control measures and monitor airborne particulate matter as required.

### 3.8 EQUIPMENT DECONTAMINATION

- A. Equipment decontamination procedures specified in Section 02840 shall be followed when decontaminating equipment used to excavate, manage, transport, dispose, or otherwise comes in contact with PCB Remediation Waste soils.

END OF SECTION

## SECTION 02120

## TRANSPORTATION AND DISPOSAL OF CONTAMINATED MATERIALS

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Transportation and disposal of Contaminated materials collected, consolidated, and generated during performance of the Work.
  - 2. Coordination, loading, transportation and disposal of contaminated materials.
- B. Related Sections
  - 1. Section 01350 – Health & Safety Plan
  - 2. Section 02110 – Contaminated Soil Excavation
  - 3. Section 028020 – Asbestos Abatement
  - 4. Section 028030 – Lead-Based Paint Management
  - 5. Section 028040 – PCB-Containing Building Materials Abatement
  - 6. Section 028050 – Hazardous Materials Management

## 1.2 DEFINITIONS

- A. Disposal: The discharge, deposit, injection, dumping, spilling, leaking, incineration or placing of any contaminated material or otherwise hazardous substance into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.
- B. Generator: Any person, by site, whose act or process produces hazardous waste, or whose act first causes an oil or hazardous material to become subject to regulation.
- C. Regulated Waste: Non-Resource Conservation and Recovery Act (RCRA) hazardous wastes such as oils, petroleum products or residuals, chemical liquids, chemical gases or vapors, non-Toxic Substances Control Act (TSCA) polychlorinated biphenyls (PCBs), waste chemical solids, including materials, and other contaminated material wastes not defined as RCRA Hazardous, TSCA-regulated, or Special Waste.
- D. Manifest: An approved form used as a shipping document to identify the quantity, composition, and the origin, routing, and destination of regulated or hazardous waste from the site of generation to the point of disposal, treatment, storage, or use.
- E. Shipping Paper: An invoice, bill of lading, or other shipping document serving a similar purpose; other than a hazardous waste manifest used to document the conveyance of materials between different locations, including regulated wastes when applicable.

- F. Treatment: Any method, technique or process, including neutralization, incineration, stabilization or solidification, designed to change the physical, chemical or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste less hazardous, non-hazardous, safer to transport, amenable to storage, or reduced in volume, except such method or technique as may be included as an integral part of a manufacturing process at the point of generation.
- G. TSCA/RCRA Landfill: This type of landfill is permitted to accept material that contains PCB remediation waste with concentrations up to 500 ppm, acceptable for landfill disposal as defined in 40 CFR Part 761; material that is classified as either a RCRA characteristic waste or RCRA listed waste as defined in 40 CFR Part 261 but meets the treatment standards established in 40 CFR Part 268 - Land Disposal Restrictions; and all other material classified as a hazardous waste in CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations. This type of landfill shall be approved to operate under a Federal Part B operating permit and shall be permitted to accept material with PCB concentrations up to 500 ppm under TSCA. The landfill shall be designed with a double composite liner meeting minimum RCRA design requirements. The landfill shall operate a leachate collection system and shall also operate a leak detection well system. The landfill shall be capable of stabilizing materials for meeting requirements of the USEPA's present rules required under the 1984 amendments to RCRA, banning the land disposal of hazardous material.
- H. RCRA Landfill: This type of landfill is permitted to accept non-TSCA PCB contaminated material with concentrations < 50 ppm; material that is classified as either a RCRA characteristic waste or RCRA listed waste as defined in 40 CFR Part 261 but meets the treatment standards established in 40 CFR Part 268 - Land Disposal Restrictions and all other material classified as a hazardous material in CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations. This type of landfill shall be approved to operate under a Federal Part B operating permit. The landfill shall be designed with a double composite liner meeting minimum RCRA design requirements. The landfill will operate a leachate collection system and will also operate a leak detection well system. The landfill shall be capable of stabilizing materials for meeting requirements of the land ban.
- I. Non-RCRA Out-of-State Lined Landfill: This type of landfill shall be state approved or permitted to accept material that is defined as a hazardous material in CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations, but is not classified as either a RCRA characteristic waste or RCRA listed waste as defined in 40 CFR Part 261; material containing non-TSCA PCBs below 50 ppm; and all other material not permitted or unsuitable for in-state disposal or recycling.
- J. Out-of-State Recycling Facility: This type of facility shall be state approved or permitted to accept material that is defined as a hazardous material in CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations, but is not classified as either a RCRA characteristic waste or RCRA listed waste as defined in 40 CFR Part 261; material containing non-TSCA PCBs below the facility's permitted level; and all other material not permitted or unsuitable for in-state disposal or recycling.
- K. In-State Recycling Facility: This type of facility shall be approved by the State of Connecticut to accept material that is classified as petroleum contaminated material, that would be classified as a hazardous material in CGS Section 22a-114 to 22a-134z



Hazardous Waste Regulations if not managed under in CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations; and is not classified as a RCRA characteristic waste or RCRA listed waste as defined in 40 CFR Part 261.

- L. Landfill Facility (Reuse as Cover Material): This type of facility shall be approved by the State in which the landfill is located to accept material that is classified as polluted material, that would be classified as a hazardous material in CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations if not managed under in CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations; and is not classified as a RCRA characteristic waste or RCRA listed waste as defined in 40 CFR Part 261.

### 1.3 SUBMITTALS

- A. Submit all pertinent information relating to the transport and disposal of materials specified herein, within 14 days after issuance of the Notice to Proceed and prior to transport and disposal. The information submitted be in one package and shall include the following, as a minimum:
  - 1. Information for proposed treatment/disposal facility or facilities including the following:
    - a. General Information
      - 1) Facility Name
      - 2) Facility Address
      - 3) Name of Contact Person
      - 4) Title of Contact Person
      - 5) Telephone Number of Contact Person
      - 6) Permit Number
    - b. The facility shall specify the volume of material that can be accepted from the Project on a weekly and a total basis.
    - c. The facility shall provide written confirmation that they are permitted to accept and will accept the classified contaminated materials the general quality and quantity described by these specifications.
    - d. The facility shall provide a listing of all current and valid permits, licenses, letters of approval, and other authorizations to operate that they hold, pertaining to the receipt and treatment/disposal of the contaminated materials described by these specifications.
  - 2. Connecticut Department of Transportation Transporter Identification Number and expiration date.
  - 3. Name and address of all hazardous material transporters to be used to transport materials including proof of permit, license, or authorization to transport hazardous material in all affected states.
- B. Upon receipt of final approval from treatment/disposal facility to accept contaminated materials, submit copy of said approval.

- C. Within ten (10) working days after the off-site transportation of contaminated materials, submit copies of all paperwork related to transportation of contaminated materials. Such paperwork may include, but not be limited to receipts, weight tickets, and disposal certificates.
  - 1. Provide certified tare and gross weight slips for each load received at the designated treatment/disposal facility which shall be attached to copy of related manifest or bill of lading.
- D. Prior to receiving progress payment, submit documentation certifying that all materials were transported to, accepted, and disposed of, at the selected treatment/disposal facility. The documentation shall include the following, as a minimum.
  - 1. Documentation for each load from the site to the disposal facility, including all manifests and any other applicable transfer documentation.
  - 2. All documentation for each load shall be tracked by the original manifest or bill of lading document number assigned at the project site at time of signature by Generator or their designated representative.

#### 1.4 REGULATORY REQUIREMENTS

- A. Obtain all Federal, State and local permits, approvals, or authorizations required for the transport and disposal of contaminated materials. Adhere to all requirements of such permits, approvals, or authorizations.

#### PART 2 PRODUCTS – NOT USED

#### PART 3 EXECUTION

##### 3.1 GENERAL

- A. Sample, test, or analyze contaminated material as needed for approval of final disposal. Provide Engineer with a sampling and analysis plan for approval prior to submitting any waste characterization samples for laboratory analysis.
- B. Contaminated materials to be disposed of include, but are not limited to:
  - 1. Mixed friable asbestos and Connecticut Department of Energy and Environmental Protection (CTDEEP) Regulated PCB building demolition waste
  - 2. Mixed friable asbestos and TSCA PCB Bulk Product Waste
  - 3. TSCA PCB Remediation Waste (soil)
  - 4. Asbestos containing building materials
  - 5. Universal wastes
  - 6. Other regulated wastes and/or contaminated materials generated during abatement, decontamination, and demolition activities.
- C. All contaminated materials abated, consolidated, or otherwise managed during the course of the work will require special handling in accordance with these specifications, the Contractor's Health and Safety Plan, and all applicable permits, approvals, authorizations, and regulations.

- D. All Contractor personnel shall wear personal protective equipment and protective clothing consistent with the levels of protection for this Work as indicated in the Site Health and Safety Plan.
- E. Contractor shall propose treatment/disposal facilities to receive contaminated materials from the Project which are established, fully operational, and in full compliance with all applicable Federal, State, and local regulations.
- F. Remove all contaminated materials from the project site and legally dispose of them at facilities approved by Owner or Engineer.

### 3.2 DISPOSAL COORDINATION AND TRANSPORT

- A. Contractor is solely responsible for coordinating treatment/disposal facility approval, scheduling, loading, transport, and ultimate disposal of contaminated materials at treatment/disposal facility. No claim for delay will be considered based upon the selected facility failing to meet Contractor's production schedule. No payments will be made for rejected loads.

### 3.3 MANIFESTS AND SHIPPING PAPERS

- A. Owner is designated as the "Generator" and will sign all Manifests and Shipping Papers. Manifests and Shipping Papers shall be prepared by Contractor seventy two (72) hours in advance of shipment of contaminated materials. Authorized Owner's representative will sign as "Generator" as each load of contaminated material leaves the Project Site. Contractor shall forward appropriate original copies of Manifests or Bills of Lading to Engineer on the same day the contaminated materials leave the Project Site.

### 3.4 TRANSPORT OF CONTAMINATED MATERIAL

- A. Transport contaminated materials off-site after all treatment/disposal facility documentation has been completed and the material accepted by said facility.
- B. Transport contaminated materials from the site to treatment/disposal facility in accordance with all United States Department of Transportation (DOT), USEPA, Connecticut regulations and other regulations of all affected states.
- C. The Hauler(s) shall be licensed in all states affected by transport.
- D. Provide to Engineer copies of all weight slips, both tare and gross, for every load weighed and disposed of at the accepted disposal facility. The slips shall be tracked by the original manifest document number that was assigned by Engineer at the site. Owner will only make progress payments upon receipt of these weight slips.
- E. Minimize the potential for development of free liquid during transport. Do not load excessively wet materials for transport. If free liquid does develop during transport, Contractor shall be responsible for proper collection and disposal of same.
- F. All waste generated during the Work shall be removed from the Project Site in accordance with the requirements of this section.

END OF SECTION

SECTION 02200

SITE PREPARATION

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes
  - 1. Clearing and grubbing

1.2 SUBMITTALS

- A. Submit construction methods and equipment that will be utilized for the clearing, grubbing, and waste material disposal specified within this Section.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 CLEARING AND GRUBBING

- A. Remove all non-hazardous site debris, equipment, and refuse as general construction debris from the Site.
- B. Except as otherwise directed, cut, grub, remove and dispose of all trees, stumps, brush, shrubs, roots, and any other objectionable material within the limits of the Work on the site and where required to construct the work.
- C. Protect trees or groups of trees, if any, designated by the Engineer to remain, from damage by all construction operations by erecting suitable barriers, or by other approved means. Conduct clearing operations to prevent falling trees from damaging trees designated to remain.
  - 1. All damage done to the trees by the Contractor’s operation shall be trimmed and painted where cut as directed or as necessary to provide adequate vertical clearance for construction activities. The dressing or paint shall be applied no later than two days after the cuts are made.
  - 2. Use all necessary precautions to prevent injury to other desirable growth in all areas. Contractor shall assume full responsibility for any damage.
- D. Protect areas outside the limits of clearing from damage. No equipment or materials shall be stored in these areas.
- E. No stumps, trees, limbs, or brush shall be buried in fills or embankments.

3.2 DISPOSAL OF MATERIALS

- A. Dispose of all non-hazardous site debris off-site in a legal manner
- B. Remove all tree trunks, limbs, roots, stumps, brush, foliage, other vegetation, and objectionable material from the site and dispose of in a legal manner.
- C. Burning or direct burial of cleared and grubbed materials on-site will not be permitted.

END OF SECTION

## SECTION 02222

## BUILDING DEMOLITION

## PART 1 GENERAL

## 1.1 SUMMARY

## A. Section Includes

1. Demolition of designated structures and contents and removal of materials from Site.
2. Demolition and removal of the standing and subgrade portions of the Site buildings and other site structures identified in the Construction Documents including foundations, basements, footings, and slabs.
3. Identifying, disconnecting and removal of all utility services not addressed by the Town.
4. Prepare and file all necessary notifications and permit applications for demolition, utility removal, and any other work associated with the project.

## B. Related Sections

1. Section 01350 - Health & Safety Plan
2. Section 02110 – Contaminated Soil Excavation
3. Section 028020 – Asbestos Abatement
4. Section 028030 – Lead-Based Paint Management
5. Section 028040 – PCB-Containing Building Materials Abatement
6. Section 028050 – Hazardous Materials Management

## 1.2 QUALITY ASSURANCE

## A. Regulatory Requirements

1. Conform to Town of Bolton code for demolition of structures, safety of adjacent structures, dust control, runoff control, and disposal.
2. Obtain required permits from authorities and provide copies to Owner and Engineer prior to start of work.
3. Notify affected utility companies before starting work and comply with their requirements. Provide Engineer with copies of all notices.
4. Do not close or obstruct roadways, sidewalks, or hydrants without permits.
5. Conform to applicable regulatory procedures when managing hazardous or contaminated materials.

### 1.3 SITE CONDITIONS

- A. Inspect the premises, prior to submittal of proposal, for verification of existing conditions, which will affect this Work.
- B. The Owner and Engineer assume no responsibility for the actual condition of the structures or the Contractor's health and safety.

### 1.4 SUBMITTALS

- A. Demolition Plan - Means and methods proposed for building demolition. This submittal should be sufficient to demonstrate a thorough understanding of the Work to be completed and the means that will be implemented to safely complete the demolition within the Contract Time and in consideration of the known hazardous building materials and other contamination within the building.
  - 1. The Demolition Plan must include a detailed description of the means and methods that will be used to separate and secure the buildings including but not limited to wall demolition and shoring.
- B. Building Restoration Plan – Submit a construction plan prepared by a CT licensed architect and where appropriate, licensed Professional Engineers (P.E.) to restore impacted parts of the building that will remain including but not limited to site improvements / landscaping, foundation repairs, structural repairs, wall infill, interior restoration, roofing repairs, doors and windows, mechanical, electric, and plumbing repairs, and miscellaneous painting carpentry, hardware, ceilings, and flooring.
- C. Waste Management Plan - Indicate an understanding of the types of wastes to be generated and the proposed disposal or recycling locations. Include back-up disposal facilities.
- D. Project schedule including critical path items that affect the building demolition. This submittal can overlap with Progress Schedule described in Section 01325 – Scheduling of Construction.
- E. Copies of any authorizations and permits required to perform the Work, including disposal/recycling facility permits and approvals.
- F. The following records and disposal documentation must be maintained and kept current throughout the Project. These documents will be maintained in chronological order in a 3-ring binder with appropriate tabbed dividers. Contractor will be reviewed for completeness at each progress meeting and in advance of all payment applications. Requests for periodic payments may be rejected, in whole or in part, if documentation is not current.
  - 1. Records of the amounts of waste generated, by waste type
  - 2. Evidence of lawful disposal or recycling of all wastes generated
  - 3. Documentation of underground structures and utilities
  - 4. Copies of any analytical results generated during waste stream characterization

### 1.5 REGULATORY REQUIREMENTS

- A. Contractor is solely responsible for obtaining permits or approvals which may be required to perform the work of this section, including all costs, fees and taxes required or levied.
- B. Notify and obtain such permits or approvals from agencies having jurisdiction over demolition prior to starting work.
- C. Comply with all applicable federal, state, and local environmental, safety and health requirements regarding the demolition of structures and other site features and recycling or disposal of demolition debris, as applicable.
- D. Conform to all requirements identified in Section 01350 – Health and Safety Plan.

## **PART 2 PRODUCTS – NOT USED**

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Verify site conditions before proceeding with demolition work. Field check the accuracy of the Drawings and inspect structures and utilities prior to start of work and notify the Engineer in writing, of any undocumented hazardous conditions and/or discrepancies. Primary structures and other site features are shown on the Drawings; other smaller structures, including, but not limited to, concrete walks and pads, miscellaneous signs, lamp posts, railings, and fencing may not be shown on the Drawings, but may exist within the Limit of Work and shall be demolished.
  - 1. Unknown Site Conditions - The information provided on the Drawings and in the Specifications is believed accurate. Field verify all information. Bear full responsibility for obtaining all locations of underground structures, utilities and their connections. Maintain services to buildings outside the limits of work.
  - 2. Interior Elements - Interior features including but not necessarily limited to structural elements, walls, partitions, equipment, piping or other building facilities are not shown on the drawings and must be visually inspected. Inspect and appraise all features and facilities to be demolished or removed for salvage. Investigate to assure the condition of the work to be demolished and take all precautions necessary to ensure safety of people and property.

### **3.2 PREPARATION**

- A. Remove and/or stabilize all hazards necessary to safely enter the building, prior to commencing work inside the building. Where hazards cannot be stabilized, selectively demolish parts of the structure to gain safe access.
- B. Mark all restricted access areas within and around the building with caution tape, sawhorses, safety fence or other types of barricades as necessary. Similarly, all holes through the floors or weak sections of the floor shall be covered and clearly marked.
- C. Remove hazardous materials prior to structure demolition when possible and in accordance with applicable specification Sections.
- D. Identify, terminate, and disconnect utilities serving the individual structures to be demolished, prior to demolition in accordance with Section 02280.

1. Utility disconnects and abandonment services will be completed by the Town of Bolton. Contractor to confirm that all utilities are inactive and properly disconnected and/or abandoned prior to demolishing any structures.
- E. Provide and maintain temporary barriers and security devices at locations approved by Engineer or required by other authorities.
- F. Protect existing paved areas, appurtenances, structures, etc., which are not to be demolished.
- G. Identify and mark locations of all utilities.
- H. Remove and dispose of all equipment and wastes identified in Section 13283 – Hazardous Materials Abatement prior to the start of mass demolition. Select demolition activities may be completed to safely access the building for removal of the specified items and wastes.

### 3.3 HAZARDOUS MATERIALS

#### A. Lead Paint

1. A number of state, federal and local agencies regulate work which involves lead paint. Paint coatings on the structures to be demolished that contain lead could present a hazard to workers and requires regulatory compliance with 29 CFR 1926.62 "Lead in Construction."
2. Of specific concern is the cutting of steel components using torch methods. If the Contractor intends to torch cut painted steel, lead paint must be removed from the area to be cut with a chemical stripper or other means prior to cutting. Sufficient paint must be removed from the area to prevent volatilization of lead during the heating of the steel. Other means of controlling worker exposure to lead will be acceptable provided that they are addressed in the Lead Exposure Control Plan outlined in Section 01350 and that they meet the requirements of 29 CFR 1926.62.
3. Where activities may generate leaded dust or impact a leaded surface, regulate work area so that dust migration is contained properly within the regulated area. Once the work is complete, properly clean up and dispose of leaded dust and materials.

#### B. Oil and Hazardous Material Contamination

1. Contamination associated with the former Site operations is known and expected to exist within the building. Handle such material in accordance with Sections 01350 – Health and Safety Plan and applicable specifications.
2. Waste and contaminated materials associated with the former Site operations are on floors of the basement, inside tanks, floor trenches/sumps/pits, and other containers and structures. Handle such material in accordance with Sections 01350 – Health and Safety Plan and applicable specification Sections.

### 3.4 DEMOLITION



- A. Demolish the buildings, underground utilities and related appurtenances by methods that will not cause damage to surrounding structures, underground and overhead utilities, or other existing items and structures that are to remain in place.
- B. Promptly and properly manage all debris in accordance with Section 02120 and applicable specification Sections as the demolition progresses. Construct and/or prepare material staging/stockpile areas at locations approved by the Engineer.
- C. Manage and segregate all scrap metal for recycling.
  - 1. Segregate non-contaminated / non-PCB containing scrap metal from known PCB containing metal and transport such metals to the appropriate approved recycling facilities.
  - 2. Segregate and scrap metal by material type (i.e. steel and copper) to the extent practicable.
- D. Buildings
  - 1. Demolish the buildings including foundations, basements, and slabs within the Limit of Work as indicated on the Drawings. Equipment, piping and interior facilities are not shown on the Drawings but shall be demolished.
  - 2. Barricade the work area as necessary to protect workers and general public from falling debris.
  - 3. Do not leave unstable structures unattended. Plan the workday so that all structures are stable at the end of each workday.
- E. Remove all roofs, walls, floors, columns, equipment, debris and other materials in structures identified to be demolished.

### 3.5 DISPOSAL

- A. At regular intervals, remove from the site all debris, rubbish, and other materials resulting from demolition operations and legally dispose of off the Site. Storage or sale of demolished materials to be removed will not be permitted on the Site.
- B. Legally dispose of or recycle all materials from demolition including all contaminated or PCB-containing metal as well as equipment and other materials that are within the buildings in accordance with the applicable specification Sections. Disposal sites shall be permitted to accept the waste stream by the applicable State Agency. Perform the loading of demolition materials in a manner that prevents materials and activities from generating excessive dust and ensures minimum interference with roads, sidewalks, and streets both onsite and offsite.
- C. Provide evidence that the demolition materials including all contaminated or PCB-containing metal have been received at a legal disposal, recycle, reuse or salvage location. Such proof may include truck weigh slips from an approved disposal facility or documentation of transfer of title. Transport all materials off site in accordance with applicable Department of Transportation Regulations. All materials leaving the site shall become the property of the Contractor.

### 3.6 SITE RESTORATION

- A. Document the location of any structures that remain in place through construction photographs and by obtaining swing ties to and elevations of any structures to be buried. Progress payments may be withheld if current documentation is not maintained.

### 3.7 DUST CONTROL

- A. Contractor shall implement fugitive dust suppression to prevent unacceptable levels of dust resulting from demolition operations or other activities required by the Contract Documents. It shall be the Contractor's responsibility to supervise fugitive dust control measures and to monitor airborne particulate matter.
  - 1. Comply with applicable provisions of Section 01350 – Health and Safety Plan.
  - 2. Prevent dust from becoming a nuisance or hazard. During demolition, stockpiles are to be policed and controlled to prevent spreading of the material and generation of dust.
  - 3. Control dust during the work on-site using calcium chloride and/or water. Cover stockpiles as necessary.
  - 4. During the Work, all paved road and driveway surfaces shall be scraped and broomed free of soil and debris on a daily basis. The surfaces shall be hosed down or otherwise treated to eliminate active or potential dust conditions and the natural road or wearing surface shall be exposed.
  - 5. Ensure that the existing equipment, facilities, occupied space, and roadways adjacent to or nearby areas of the work do not come in contact with dust or debris as a result of demolition.
  - 6. Ensure that all exiting equipment and trucks drive over paved areas of anti-tracking pads before leaving the site.
  - 7. Submit for approval materials proposed for use for dust control, prior to start of the Work.
  - 8. The Engineer may conduct total particulate (dust) air monitoring using visual observations and real time monitors located up and down wind of the work areas to document the contractor's use of appropriate dust controls and their effectiveness.
    - a. Monitoring equipment will be capable of measuring particulate matter less than 10 micrometers in size (PM10) and capable of integrating data over a period of 15 minutes (or less) for comparison to the airborne particulate action level.
    - b. If the downwind PM10 particulate level is greater than 150 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) for a 15-minute period or if airborne dust is observed leaving the work area. The Contractor must implement additional dust suppression techniques, including water spray, calcium chloride spray, stockpile or surface soil covering, surface sweeping, etc.
    - c. If, after implementation of additional dust suppression techniques, downwind PM10 particulate levels are greater than 150  $\mu\text{g}/\text{m}^3$ , work will be stopped and a re-evaluation of activities initiated.

- 1) No claim for delay will be considered for work stoppage based upon the results of Engineer's active dust monitoring results.

END OF SECTION

SECTION 02280  
SITE UTILITY ABANDONMENT

PART 1 GENERAL

1.1 SUMMARY

- A. The Town of Bolton intends to complete the utility disconnects and abandonment necessary to facilitate building demolition.
- B. This section specifies the work to be performed by Contractor for abandonment of utilities at the Project Site should the Town require that assistance.
- C. Section Includes
  - 1. Removal and abandonment of pipe, manholes and catch basins.
  - 2. Abandonment of above- and below-grade utilities and related facilities including but not necessarily limited to electric, tel-data, CATV, conduits, utility structures, sewerage structures and piping, grease traps, drainage structures and piping, gas, and water, fire protection, etc. on, or serving the Project Area.
- D. Contractor shall coordinate work between all Subcontractors, sections, and trades required for the proper completion of the work.
- E. Contractor is responsible for the health and safety of all Subcontractor workers during progress of the work.

1.2 SUBMITTALS

- A. The contractor shall submit a utility abandonment plan that incorporates any abandonment procedures required by the owner and the respective utility company, of each utility prior to performing the work of utility termination, cutting, capping, and/or plugging.
- B. Material specifications and shop drawings for all materials and equipment furnished under this section, prior to performing the work of utility abandonment.
- C. As-built drawings showing locations of all terminated/cut/capped/plugged utilities and service disconnections at or before project close-out.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Comply with the material specifications required by the owner of each utility. Where such material specifications may conflict with this Specification, utility owner's requirements shall prevail.
- B. Borrow Material: Conform to applicable Specifications.
- C. Portland Cement: ASTM C 150, Type II.
- D. Mortar Aggregate: ASTM C 144, standard masonry type, clean, dry, free of deleterious materials.
- E. Concrete: Design of mix in accordance with ASTM C-94, ASTM C-150, Type II Portland Cement, washed and graded sand, and aggregate with maximum size of 1-inch; or pre-packaged concrete mix with maximum aggregate size of 1-inch, ASTM C 387. Minimum 28-day compressive strength of 4000 psi.
- F. Masonry Mix: Washed and graded mason sand, lime, and Portland Cement, ASTM C 270; or pre-packaged, dry, sand/lime/cement mortar mixture, ASTM C 387. Minimum 28-day compressive strength of 1200 psi.
- G. Solid Concrete Masonry Unit: ASTM C55, sized per pipe diameter to minimize requirements for cutting.

## PART 3 EXECUTION

### 3.1 GENERAL

- A. Notify Call Before You Dig (CBYD) and obtain CBYD tracking number.
- B. Notify utility owners in reasonable advance of the work and request the utility owner to mark out the ground surface above the underground facilities and structures. Notify the Engineer in writing of any refusal or failure to mark out such underground utilities after reasonable notice.
- C. Contractor is solely responsible for providing coordination and obtaining permits with owners of the various utilities serving, or present at, the Project Site as required to complete termination and demolition work. Coordinate as required for termination of service, temporary termination of service, relocation of facilities, abandonment of facilities, demolition of facilities, cutting, capping, and bracing. Comply at all times with the procedures for terminations of utility services as required by the owner of each utility serving, or present at, the Project Site.
- D. When utilities are encountered that are not indicated on the drawings, notify Engineer before proceeding with work in such area.
- E. Coordinate with Eversource for the removal of the pad mounted transformer(s) remaining at the site.

### 3.2 UTILITY TERMINATION

- A. Terminate utilities serving the Project Site. Terminate, cut, cap, or plug utilities in accordance with each utility owner's requirements, including, but not necessarily

limited to, scheduling of inspections by utility company personnel, permits, licenses, approvals, insurance, or bonds.

### 3.3 DEMOLITION

- A. Do not demolish any utility until termination has been verified.
- B. Unless identified on the Drawings to remain, remove and dispose of all overhead and underground utilities and related systems and appurtenances on the Project Site, including but not necessarily limited to water, electric, sanitary sewer, storm sewer, miscellaneous drainage, heating facilities, communications, exterior lighting supplies; utility poles, light standards, utility foundations, supports and ancillary equipment; hydrants and other similar supply facilities, valves and meters; site drainage and catch basins and related structures; sanitary sewerage piping, manholes, pumps, and related facilities; and other miscellaneous plumbing, piping and conveyances.

### 3.4 BACKFILL

- A. Replace soil material excavated for utility removal, termination or abandonment in accordance with applicable Specifications.
  - 1. Backfilling to grade is required with Compacted Granular Fill.
  - 2. Imported Compacted Granular Fill material is required.
- B. Provide OSHA-compliant barriers or smooth edges of all excavations to produce a stable slope, with smooth grade transitions and no vertical cuts from top of slope to lower limits of the excavation in compliance with the requirements of OSHA. Maximum slope into any excavated area under ideal soil conditions shall be 1 to 2, vertical: horizontal.

### 3.5 PROTECTION

- A. Contractor shall take measures to protect from damage those utilities, or portions thereof, which are designated to remain. Provide protection as required such as marking, blocking, bracing, stabilizing, supporting, and retaining.
- B. Utilities to remain damaged by Contractor shall be repaired/replaced to the satisfaction of the utility owner at Contractor's expense.

### 3.6 DOCUMENTATION

- A. Contractor shall provide as-built documentation for each utility termination, including location, depth, and method and material of construction for termination. Such as-built documentation shall be on the appropriate site plans.
- B. Contractor shall physically mark the location of each subsurface utility termination with a surveyor's stake, with such stake identifying the utility type and depth

below grade. Where the use of stakes at a utility termination location may be inappropriate, Contractor shall provide staking at an adjacent location(s) and include appropriate offset dimensions or other suitable demarcation.

END OF SECTION

## SECTION 02315

## EXCAVATION, BACKFILL, AND COMPACTION

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Excavation, backfill and compaction
- B. Related Sections
  - 1. Section 01570 – Temporary Controls
  - 2. Section 02110 – Contaminated Soil Excavation
  - 3. Section 02120 – Transportation and Disposal of Contaminated Materials
  - 4. Section 02222 – Demolition
  - 5. Section 02280 – Site Utility Abandonment
  - 6. Section 02320 – Borrow Materials

## 1.2 REFERENCES

- A. ASTM D1557-07 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>))
- B. ASTM D1556-07 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
- C. ASTM D2487-06e1 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
- D. ASTM D6938-08a - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- E. 29 CFR Part 1926 Subpart P - OSHA Excavation Regulations 1926.650 through 1926.652 including Appendices A through F

## 1.3 DEFINITIONS

- A. Benching - A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.
- B. Earth Retention Systems - Any structural system, such as sheeting and bracing or cofferdams, designed to retain in-situ soils in place and prevent the collapse of the sides of an excavation in order to protect employees and adjacent structures.
- C. Excavation - Any man-made cut, cavity, trench, or depression in an earth surface, formed by earth removal.
- D. Protective System - A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face or into an excavation, or from the



collapse of adjacent structures. Protective systems include earth retention systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

- E. Registered Professional Engineer - A person who is registered as a professional engineer in the state where the work is to be performed. However, a professional engineer, registered in any state is deemed to be a "registered professional engineer" within the meaning of this standard when approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.
- F. Shield System - A structure that is designed to withstand the forces imposed on it by a cave-in and thereby protects employees within the structure. Shields can be permanent structures or can be designed to be portable and moved along as work progresses. Additionally, shields can be either pre-manufactured or job-built in accordance with 29 CFR 1926.652(c)(3) or (c)(4). Shields used in trenches are usually referred to as "trench boxes" or "trench shields."
- G. Sloping - A method of protecting employees from cave-ins by excavating to form sides of an excavation that are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.
- H. Trench - A narrow excavation (in relation to its length) made below the surface of the ground, of at least three feet in depth. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet (4.6 m).

#### 1.4 SUBMITTALS

- A. Drawings and calculations for each Earth Retention System required in the Work. The submittal shall be in sufficient detail to disclose the method of operation for each of the various stages of construction required for the completion of the Earth Retention Systems.
  - 1. Submit calculations and drawings for Earth Retention Systems prepared, signed, and stamped by a Professional Engineer registered in the state where the work is performed.
- B. Performance data for the compaction equipment to be utilized
- C. Modified Proctor Test (ASTM D1557) results and soil classification (ASTM D2487) for all proposed backfill materials at the frequency specified below:
  - 1. For suitable soil materials removed during Excavation, perform one test for every 1,000 cubic yards of similar soil type. Similarity of soil types will be as determined by the Engineer.
  - 2. For borrow materials; perform tests at frequency specified in Section 02320, Borrow Materials.
- D. Compaction test results (i.e. ASTM D6938 or ASTM D1556) at a frequency of one test for every 100 cubic yards of material backfilled or at a minimum of one test per lift. The Engineer will determine the locations and lifts to be tested. The Contractor shall plan his operations to allow adequate time for laboratory tests and to permit taking of field density tests during compaction.

1. Methods and equipment proposed for compaction shall be subject to prior review by the Engineer. Compaction generally shall be done with vibrating equipment. Static rolling without vibration may be required by the Engineer on sensitive soils that become unstable under vibration. Displacement of, or damage to existing utilities or structure shall be avoided. Any utility or structure damaged thereby shall be replaced or repaired as directed by the Engineer.
2. Additional compaction testing may be required when there is evidence of a change in the quality of moisture control or the effectiveness of compaction.
  - a. Any costs associated with correcting and retesting as a result of a failure to meet compaction requirements shall be borne by the Contractor.
3. If all compaction test results within the initial 25% of the total anticipated number of tests indicate compacted field densities equal to or greater than the project requirements, the Engineer may reduce frequency of compaction testing. In no case will the frequency be reduced to less than one test for every 500 cubic yards of material backfilled.
4. The Contractor is cautioned that compaction testing by nuclear methods may not be effective where trenches are so narrow that trench walls impact the attenuation of the gamma radiation, when adjacent to concrete that impacts the accuracy of determining moisture content, or where oversize particles (i.e. large cobbles or coarse gravels) are present. In these cases, other field density testing methods may be required.

1.5 QUALITY ASSURANCE

1.6 PROJECT CONDITIONS

- A. Notify Call Before You Dig and obtain project identification numbers.
- B. Notify utility owners in reasonable advance of the work and request the utility owner to stake out on the ground surface the underground facilities and structures. Notify the Engineer in writing of any refusal or failure to stake out such underground utilities after reasonable notice.
- C. Make explorations and excavations as needed to determine the location of existing underground structures, pipes, house connection services, and other underground facilities.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Fill material is subject to the approval of the Engineer and may be either material removed from excavations or borrow from off site. Fill material, whether from the excavations or from borrow, shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill.
- B. Satisfactory fill materials shall include materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, SW, and SP. Additional requirements are included in Section 02320.

- C. Satisfactory fill materials shall not contain trash, refuse, vegetation, masses of roots, individual roots more than 18 inches long or more than 1/2 inch in diameter, or stones over 6 inches in diameter. Unless otherwise stated in the Contract Documents, organic matter shall not exceed minor quantities and shall be well distributed.
- D. Satisfactory fill materials shall not contain frozen materials nor shall backfill be placed on frozen material.
- E. Excavated surface and/or pavement materials such as gravel or trap rock that are salvaged may be used as a sub-grade material, if processed to the required gradation and compacted to the required degree of compaction. In no case shall salvaged materials be substituted for the required gravel base.

## PART 3 EXECUTION

### 3.1 PREPARATION

- A. Public Safety and Convenience
  - 1. Take precautions for preventing injuries to persons or damage to property in or about the Work.
  - 2. Provide safe access for the Owner and Engineer at site during construction.
  - 3. Do not obstruct site drainage, natural watercourses or other provisions made for drainage.

### 3.2 CONSTRUCTION

- A. Earth Retention Systems
  - 1. Provide Earth Retention Systems necessary for safety of personnel and protection of the Work, adjacent work, utilities and structures.
  - 2. Maintain Earth Retention Systems for the duration of the Work.
  - 3. Remove earth retention system, unless designated to be left in place, in a manner that will not endanger the construction or other structures. Backfill and properly compact all voids left or caused by the withdrawal of sheeting.
    - a. Remove earth retention systems, which have been designated by the Engineer to be left in place, to a depth of 3 feet below the established grade.
- B. Excavation
  - 1. Perform excavation to the lines and grades indicated on the Drawings. Backfill unauthorized over-excavation in accordance with the provisions of this Section.
  - 2. Excavate with equipment selected to minimize damage to existing utilities or other facilities. Hand excavate as necessary to locate utilities or avoid damage.
  - 3. Sawcut the existing pavement in the vicinity of the excavation prior to the start of excavation in paved areas, so as to prevent damage to the paving outside the requirements of construction.

- 4. Perform excavation in such a manner as to prevent disturbance of the final subgrade. The Engineer or Owner may require the final six inches of excavation be performed by hand, with the use of a smooth-faced bucket, or other means acceptable to the Engineer or Owner, at no additional cost if subgrade disturbance is considered excessive as judged by the Engineer or Owner.
- 5. During excavation, material satisfactory for backfill shall be stockpiled in an orderly manner at a distance from the sides of the excavation equal to at least one half the depth of the excavation, but in no case closer than 2 feet.
  - a. Excavated material not required or not suitable for backfill shall be removed from the site.
  - b. Perform grading to prevent surface water from flowing into the excavation.
  - c. Pile excavated material in a manner that will endanger neither the safety of personnel in the excavation nor the Work itself. Avoid obstructing sidewalks and driveways.
  - d. Hydrants under pressure, valve pit covers, valve boxes, manholes, curb stop boxes, fire and police call boxes, or other utility controls shall be left unobstructed and accessible until the Work is completed.
- 6. Grade or create berms or swales to direct surface water from excavations to appropriate structures designed to accommodate storm water. If no structures exist, direct water to areas that minimize impacts to adjacent structures and properties.
- 7. Make pipe trenches as narrow as practicable and keep the sides of the trenches undisturbed until backfilling has been completed. Provide a clear distance of 12 inches on each side of the pipe.
- 8. Perform the excavation in such a manner as to prevent disturbance of the final subgrade. If excessive subgrade disturbance is occurring, as judged by the Owner or Engineer, then the final 6 inches of the excavation shall be performed by hand, with the use of a smooth-faced bucket, or other means acceptable to the Engineer or Owner.
  - a. Grade the excavation bottom to provide uniform bearing and support for the bottom quadrant of each section of pipe.
  - b. Excavate bell holes at each joint to prevent point bearing.
  - c. Remove stones greater than 6 inches in any dimension from the bottom of the trench to prevent point bearing.

C. Backfill and Compaction

- 1. Unless otherwise specified or indicated on the Drawings, use satisfactory material removed during excavation for backfilling trenches. The Engineer may require stockpiling, drying, blending and reuse of materials from sources on the Project.

2. Spread and compact the material promptly after it has been deposited. When, in the Engineer's judgment, equipment is inadequate to spread and compact the material properly, reduce the rate of placing of the fill or employ additional equipment.
3. Backfilling and compaction methods shall attain 95% of maximum dry density at optimum moisture content as determined in accordance with ASTM D1557.
4. Do not place stone or rock fragment larger than six inches in greatest dimension in the backfill.
5. Maximum loose lift height for backfilling existing or borrow material shall be 12 inches, unless satisfactory compaction is demonstrated otherwise to the Engineer through field-testing. In no case shall loose lift height for backfilling exceed 3 feet.
6. Do not drop large masses of backfill material into the trench endangering the pipe or adjacent utilities.
7. Backfill from the bottom of the trench to the centerline of the pipe with the specified material. This initial backfill is to be placed in layers of no more than 6 inches and thoroughly tamped under and around the pipe. This initial backfilling shall be deposited in the trench for its full width on both sides of the pipe, fittings, and appurtenances simultaneously.
8. Where excavation is made through permanent pavements, curbs, paved driveways, or paved sidewalks, or where such structures are undercut by the excavation, place the entire backfill to sub-grade with granular materials and compact in 6 inch layers. Use approved mechanical tampers for the full depth of the trench. If required, sprinkle the backfill material with water before tamping so as to improve compaction. Any trenches improperly backfilled, or where settlement occurs, shall be reopened to the depth required to correct the problem, and shall then be refilled and properly compacted with the surface restored to required grade at no additional expense.
9. The Contractor shall not place backfill against or on structures until they have attained sufficient strengths to support the loads to which they will be subjected, without distortion, cracking, or other damage. As soon as possible after the structures are adequate, they shall be backfilled with suitable backfill material.
10. Place and compact backfill around manholes, vaults, pumping stations, gate boxes or other structures in six inch layers, from a point one foot over the pipe. Exercise care to protect and prevent damage to the structures.
11. Contractor is responsible for coordinating and paying for all compaction testing required for the project.

### 3.3 PROTECTION

#### A. Protection of Existing Structures

1. All existing foundations, conduits, wall, pipes, wires, poles, fences, property line markers and other items which the Engineer decides must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the Contractor. Should such items be

damaged, they shall be restored by the Contractor to at least as good condition as that in which they were found immediately before the Work began.

**B. Accommodation of Traffic**

1. Streets and drives shall not be unnecessarily obstructed. The Contractor shall take such measures at his own expense to keep the street or road open and safe for two-way traffic unless otherwise indicated.
2. Construct and maintain such adequate and proper bridges over excavations as may be necessary or as directed for the safe accommodation of pedestrians and vehicles. Provide substantial barricades at crossings of trenches, or along the trench to protect the traveling public.
3. Where deemed necessary, such additional passageways as may be directed shall be maintained free of such obstructions. All material piles, open excavations, equipment, and pipe which may serve as obstructions to traffic shall be protected by proper lights, signage, or guards as necessary.
4. All traffic controls shall be in accordance with the Manual on Uniform Traffic Control Devices for Streets and Highways, latest edition.

END OF SECTION

## SECTION 02320

## BORROW MATERIALS

## PART 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Ordinary Borrow
- B. Related Sections
  - 1. Section 02315 – Excavation, Backfill, Compaction and Dewatering

## 1.2 REFERENCES

- A. ASTM C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ASTM C117 - Standard Test Method for Materials Finer than 75  $\mu\text{m}$  (No. 200) Sieve in Mineral Aggregates by Washing.
- C. ASTM D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb./ft<sup>3</sup>).
- D. ASTM D2434 - Standard Test Method for Permeability of Granular Soils (Constant Head).
- E. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
- F. ASTM D2922 - Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- G. ASTM D3017 – Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).
- H. AASHTO – Standard Specification for Transportation Materials and Methods of Sampling and Testing, 1986 Edition as amended.
- I. State of Connecticut Department of Transportation “Standard Specifications for Roads, Bridges, and Incidental Construction Form 818”.

## 1.3 SUBMITTALS

- A. Representative Samples of borrow materials taken from the source. Tag, label, and package the Samples as requested by Engineer. Provide access to the borrow site for field evaluation and inspection.
- B. Provide sieve analysis (ASTM C136) and permeability analysis (ASTM D2434) from certified soils testing laboratory for all borrow materials. Take and test a sample, at no additional cost to the Owner for each 1,500 c.y. of borrow material placed.
- C. Provide modified proctor analysis (ASTM D1557) from certified soils testing laboratory for all borrow materials.

1. Take and test a sample of low permeability soil for each 5,000 cy of material placed, or as directed by the Engineer.
  2. All other borrow materials shall be tested once unless more frequent testing is deemed necessary by the Engineer or Owner due to material variation.
- D. The Owner's Project Representative reserves the right to require more frequent testing than that which is specified above should the borrow characteristics change.
- E. Prior to the start of work, submit to the Owner's Project Representative performance data for all compaction equipment to be utilized.
- F. A Certificate of Clean Fill must be provided to Engineer and Owner for approval prior to delivery of any and all fill material including but not limited to, mineral soil, borrow material, structural fill, processed fill material, loam, or top soil to be placed on site during the course of the Work. The Certificate must include laboratory analytical reports for all material to be used at the site on a basis of one sample per every 500 cubic yards or lesser portions thereof. Analytical reports must demonstrate that the proposed material does not contain detectable concentrations of contaminants including but not limited to; petroleum hydrocarbons, semi volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), pesticides, and/or herbicides and that metals listed in the Connecticut Remediation Standard Regulations do not exceed minimal concentrations deemed allowable by Engineer and Owner. No fill material shall be placed on site until Contractor has received approval from Engineer and/or Owner. Engineer and Owner reserves the right to collect and analyze samples from any proposed fill material prior to or after delivery to the site and to allow use of off-specification material at their sole discretion.

The Certificate must clearly state the following and be signed by an authorized signatory employed by the Contractor:

1. Volume of material to be used
2. Process by which the material was obtained
3. Location of origin and summary of current and past site uses of the location of origin
4. Statement from Contractor that the analytical reports included with the Certificate represent the specific material to be used at the site
5. Statement that the Contractor does not know or have reason to believe that the proposed fill material contains foreign materials or contaminants.

#### 1.4 QUALITY ASSURANCE

- A. No borrow shall be placed prior to the approval of Samples by the Engineer.
- B. Use adequate numbers of skilled workmen who are trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods required for proper performance of the work in this Section.
- C. Use equipment of adequate size, capacity, and quantity to accomplish the work of this Section in a timely manner.



- D. Comply with the directions of Owner’s Project Representative and the requirements of governmental agencies having jurisdiction.

1.5 PROJECT/SITE CONDITIONS

- A. Existing Conditions
  - 1. Comply with any environmental requirements and restrictions.
  - 2. Keep all public and private roadway surfaces clean during hauling operations and promptly and thoroughly remove any borrow or other debris that may be brought upon the surface before it becomes compacted by traffic. Frequently clean and keep clean the wheels of all vehicles used for hauling to avoid bringing any dirt upon the paved surfaces.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

- A. Fill material is subject to the approval of the Owner’s Project Representative and may be either material removed from excavations or borrow from off site. Fill material, whether from the excavations or from borrow, shall be of such nature that after it has been placed and properly compacted, it will make a dense, stable fill.
- B. Satisfactory materials shall include materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, SW, and SP.
- C. Satisfactory materials shall not contain trash, refuse, vegetation, masses of roots, individual roots more than 18 inches long or more than 1/2 inch in diameter, or stones over 6 inches in diameter. Organic matter shall not exceed minor quantities and shall be well distributed.
- D. Satisfactory materials shall not contain frozen materials nor shall backfill be placed on frozen material.
- E. Excavated surface and/or pavement materials such as gravel or trap rock that are salvaged may be used as a sub-grade material. In no case will salvaged materials be substituted for the required gravel base.

2.2 ORDINARY BORROW

- A. Ordinary borrow shall consist of a material satisfactory to Owner’s Project Representative and not specified as gravel borrow, sand borrow, special borrow material or other particular kind of borrow. This material shall have the physical characteristics of soils designated as type GW, GP, GM, SW, SP or SM, under USCS. It shall have properties such that it may be readily spread and compacted for the formation of embankments. The borrow shall not include rocks with a major dimension greater than 8 inches.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Prior to the placement of borrow material, site preparation shall be completed as required by the Contract Documents and approved by the Engineer.

- B. Ensure that all materials are properly stockpiled on site to prevent contamination by other materials.
- C. Place borrow material over the entire area in uniform lifts and compact in accordance with Section 02315.
- D. Utilize on-site soils prior to using off-site borrow provided on-site soils meet the requirements of the specifications.
- E. Utilize gravel borrow as defined by “Standard Specifications for Roads, Bridges, and Incidental Construction Form 818” in all locations where a surface treatment has not been specified but requires a firm finish surface.
- F. Borrow shall be used as a replacement for unsuitable materials where poor soil conditions are encountered during the progress of the work, where approved by the Engineer. Borrow type will be determined by the Engineer. Borrow material used as a replacement for unsuitable soil is not intended to be an aid to dewatering.
- G. Shape borrow used for pipe foundation material so that it supports the pipe properly and will not damage the pipe, bells, collars, or the pipe fittings.
- H. Place all borrow to keep it free of other materials and to prevent segregation.

END OF SECTION

## SECTION 02922

## VEGETATIVE SUPPORT MATERIAL

## PART 1 GENERAL

## 1.1 SUMMARY

## A. Section Includes

1. Topsoil

## 1.2 SUBMITTALS

- A. Provide representative samples of borrow materials taken from the source. Tag, label, and package the samples as requested by the Engineer. Provide access to the borrow site for field evaluation and inspection.
- B. Provide analytical test results at the rate specified. Results shall indicate whether sample was taken from the upper or lower 6 inches of the vegetative support materials. All samples shall be representative and analyzed for the following:

pH

Nitrogen

Phosphorus

Potash

Grain size

Organic content

- C. A Certificate of Clean Fill must be provided to Engineer and Owner for approval prior to delivery of any and all fill material including but not limited to, mineral soil, borrow material, structural fill, processed fill material, loam, or top soil to be placed on site during the course of the Work. The Certificate must include laboratory analytical reports for all material to be used at the site on a basis of one sample per every 500 cubic yards or lesser portions thereof. Analytical reports must demonstrate that the proposed material does not contain detectable concentrations of contaminants including but not limited to; petroleum hydrocarbons, semi volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), pesticides, and/or herbicides and that metals listed in the Connecticut Remediation Standard Regulations do not exceed minimal concentrations deemed allowable by Engineer and Owner. No fill material shall be placed on site until Contractor has received approval from Engineer and/or Owner. Engineer and Owner reserves the right to collect and analyze samples from any proposed fill material prior to or after delivery to the site and to allow use of off-specification material at their sole discretion.

The Certificate must clearly state the following and be signed by an authorized signatory employed by the Contractor:

1. Volume of material to be used
2. Process by which the material was obtained

3. Location of origin and summary of current and past site uses of the location of origin
4. Statement from Contractor that the analytical reports included with the Certificate represent the specific material to be used at the site
5. Statement that the Contractor does not know or have reason to believe that the proposed fill material contains foreign materials or contaminants.

**PART 2 PRODUCTS**

**2.1 MATERIALS**

**A. Vegetative Support Material**

1. Vegetative support material shall consist of fertile, friable, natural topsoil typical of the locality without admixture of subsoil, refuse or other foreign materials and shall be obtained from a well-drained arable site. It shall be such a mixture of sand, silt and clay particles as to exhibit sandy and clayey properties in and about equal proportions. It shall be reasonably free of stumps, roots, heavy or stiff clay, stones larger than 1-inch in diameter, lumps, coarse sand, noxious weeds, sticks, brush or other litter. Topsoil as delivered to the site or stockpiled shall have pH between 6.0 and 7.0 and shall contain not less than 5 percent or more than 8 percent organic matter as determined by loss of ignition of moisture-free samples dried at 100 degrees Celsius. The topsoil shall meet the following mechanical analysis:

	<b>PERCENTAGE FINER</b>
1-in screen opening	100
No. 10 mesh	95 to 100
No. 270 mesh	35 to 75
0.002 mm*	5 to 25

\* Clay size fraction determined by pipette or hydrometer analysis.

2. Prior to stripping, the topsoil shall have demonstrated; by the occurrence upon it of healthy crops, grass or other vegetative growth; that it is reasonably well drained and that it does not contain toxic amounts of either acid or alkaline elements.

**2.2 EQUIPMENT**

**A. Earth Moving Equipment**

- B. Adequate types and number of equipment shall be used to ensure that the vegetative support material is spread evenly and at the proper depth to all areas intended to be covered without damaging underlying soil layers or structures.

**PART 3 EXECUTION**

**3.1 INSTALLATION**

- A. Vegetative support material shall be placed over approved areas to a depth sufficiently greater than required so that after natural settlement and light rolling, the complete work will conform to the lines, grades and elevations indicated. No loam shall be spread in water or while frozen or muddy.
- B. The vegetative support material shall be hauled, deposited, spread, compacted, tracked and raked to the lines and grades shown on the Plans or as directed by the Engineer. After the vegetative support material has been spread, it shall be carefully prepared for seeding by spading or harrowing, and raking. All large, stiff clods, lumps, stones, brush, roots, stumps, litter, and other foreign material shall be removed.
- C. The compaction shall be equivalent to that produced by a hand roller weighing from 75 to 100 pounds per foot of width. The compaction may be obtained by rolling, dragging or any method that produces satisfactory results. All depressions caused by settlement or rolling shall be filled with additional materials and the surfaces shall be regraded and rolled until it presents a reasonably smooth and even finish and is up to the required grade.
- D. During hauling operations, all public and private roadway surfaces shall be kept clean and any topsoil or other dirt which may be brought upon the surface shall be removed promptly and thoroughly before it becomes compacted by traffic. If necessary, the wheels of all vehicles used for hauling shall be cleaned frequently and kept clean to avoid bringing any dirt upon the surface.

### 3.2 QUALITY CONTROL

- A. The responsibility for satisfactory results on work carried out under this item rests entirely on the Contractor regardless of the prior approval of the materials and methods on the part of the Engineer.
- B. The Contractor shall provide laboratory test results for the vegetative support material intended for use as specified herein, at a frequency of 1 round per 1,000 cy of material.
- C. The Engineer shall randomly sample the borrow material and have a certified analytical laboratory perform testing as described herein. The testing shall be a verification of the results submitted by the Contractor and shall be entirely at the Contractor's expense.

END OF SECTION

SECTION 02923  
LAWNS AND GRASSES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes

1. Restoration of all vegetated areas disturbed during construction including:
  - a. Lawn areas
  - b. Grass surfaces
2. New loam and seed areas
3. Loam, starter fertilizer, lime, lawn seed
4. Mulch

B. Related Sections

1. Section 02200 – Site Preparation
2. Section 02922 – Vegetative Support Material

1.2 REFERENCES

- A. ASTM D5539 – Standard Specification for Seed Starter Mix

1.3 QUALITY ASSURANCE

- A. Place seed only between the periods from April 15<sup>th</sup> to June 1<sup>st</sup>, and from August 15<sup>th</sup> to October 1<sup>st</sup>, unless otherwise approved by the Engineer.

1.4 SUBMITTALS

A. Submit the following for approval:

1. Lawn seed mixture including percent by weight of each seed type, and manufacturer/supplier name.
2. Suitable laboratory analysis of the soil to determine the quantity of fertilizer and lime to be applied.
3. Lime and starter fertilizer application rates based on laboratory soil tests.

- B. A Certificate of Clean Fill must be provided to Engineer and Owner for approval prior to delivery of any and all fill material including but not limited to, mineral soil, borrow material, structural fill, processed fill material, loam, or top soil to be placed on site during the course of the Work. The Certificate must include laboratory analytical reports for all material to be used at the site on a basis of one sample per every 500 cubic yards or lesser portions thereof. Analytical reports must demonstrate that the proposed material does not contain detectable concentrations of contaminants including but not limited to; petroleum hydrocarbons, semi volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), pesticides, and/or herbicides and that metals listed in the Connecticut Remediation Standard Regulations do not exceed minimal concentrations deemed allowable by Engineer and Owner. No fill material shall be placed on site until Contractor has received approval from Engineer and/or Owner. Engineer and Owner reserves the right to collect and analyze samples from any proposed fill material prior to or after delivery to the site and to allow use of off-specification material at their sole discretion.

The Certificate must clearly state the following and be signed by an authorized signatory employed by the Contractor:

1. Volume of material to be used
2. Process by which the material was obtained
3. Location of origin and summary of current and past site uses of the location of origin
4. Statement from Contractor that the analytical reports included with the Certificate represent the specific material to be used at the site
5. Statement that the Contractor does not know or have reason to believe that the proposed fill material contains foreign materials or contaminants.

## PART 2 PRODUCTS

### 2.1 MATERIALS

#### A. Loam

1. Loam shall consist of fertile, friable, natural topsoil typical of the locality without admixture of subsoil, refuse or other foreign materials and shall be obtained from a well-drained arable site. It shall be such a mixture of sand, silt and clay particles as to exhibit sandy and clayey properties in and about equal proportions. It shall be reasonably free of stumps, roots, heavy or stiff clay, stones larger than 1-inch in diameter, lumps, coarse sand, noxious weeds, sticks, brush or other litter. Topsoil as delivered to the site or stockpiled shall have pH between 6.0 and 7.0 and shall contain not less than 5 percent or more than 8 percent organic matter as determined by loss of ignition of moisture-free samples dried at 100 degrees Celsius. The topsoil shall meet the following mechanical analysis:

	PERCENTAGE FINER
1-in screen opening	100
No. 10 mesh	95 to 100
No. 270 mesh	35 to 75
0.002 mm*	5 to 25

\* Clay size fraction determined by pipette or hydrometer analysis.

2. Place a minimum of 4 inches of loam.

**B. Starter Fertilizer**

1. Starter fertilizer shall bear the manufacturer's name and guaranteed statement of analysis and shall be applied in accordance with the manufacturer's directions.
2. Starter fertilizer shall be Scott's Starter Fertilizer, or equal, with timed nitrogen release to prevent burning.

**C. Lime**

1. Lime shall be an agricultural type ground limestone.
2. Lime shall be pelletized type for prolonged time release to soil.

**D. Lawn Seed**

1. Seed shall be of the previous year's crop.
2. Required ranges:
  - a. Purity > 90%
  - b. Germination > 80%
  - c. Crop < 0.5%
  - d. Weed < 0.3%
  - e. Noxious Weed - 0%
  - f. Inert < 8%
3. The standard seed mixture shall be applied at a minimum rate of 175 lbs./acre, 4 lbs./1,000 sf.

OPEN FIELD MIX	% WEIGHT
Red Fescue (Creeping)	60%
Red Top	10%
Crown Vetch	30%



4. All seed shall comply with State and Federal seed laws.
5. A sworn certificate indicating each variety of seed, weed content, germination of seed, net weight, date of shipment and manufacturer's name shall accompany each seed shipment. Responsibility for satisfactory results rests entirely on the Contractor.

E. Mulch

1. Shall be a specially processed 100 percent Virgin wood fiber mulch containing no growth or germination-inhibiting factors. Wood fiber mulch shall be Second Nature Regenerated wood fiber as by Central Fiber Corporation, Wellsville, KS or equal. It shall be manufactured in such a manner that after addition and agitation in slurry tanks with water, the fibers in the material become uniformly suspended to form a homogenous slurry. When sprayed on the ground, the material shall allow absorption and percolation of moisture. Each package of the wood fiber shall be marked by the manufacturer to show the air dry weight content and not contain in excess of 10 percent moisture.

**PART 3 EXECUTION**

**3.1 PREPARATION**

- A. Salvage all existing loam from soil disturbance areas and stockpile at an acceptable on-site location. Under no circumstances shall existing topsoil be removed from the Project site.
- B. The ground surface shall be fine graded and raked to prepare the surface of the loam for lime, fertilizer and seed.
- C. Perform a laboratory soil test on the proposed loam before placing any lime, fertilizer, or seed. This work shall be in accordance with ASTM D5539.
- D. Loam surface that has been raked smooth and prepared for sod installation shall be watered as directed by grower for plant species supplied.

**3.2 LAWN AREAS**

- A. Apply fertilizer and lime to the surface of the ground in accordance with the manufacturers' instructions and based on the results of the certified soils test.
- B. Place the seed using a drop or rotary spreader at the rate recommended by the seed manufacturer for the intended use of the lawn or grass area being restored.
- C. After spreading the seed, lightly rake the surface to work the seed in. The surface shall then be rolled.
- D. All seed on banks and slopes of three to one (3:1) and greater shall be netted and staked.
- E. As sodding is completed in any one section, roll the entire section by making four passes with a hand roller weighing not more than 100 lbs/ft of width.

3.3 MAINTENANCE

- A. Maintain loamed and seeded areas by mulching, covering, netting, watering and fencing until an acceptable stand of vegetation is approved by the Engineer.
- B. The dressed and seeded areas shall be sprinkled with water as necessary from time to time. Signs and barricades should be placed to protect the seeded areas. After the grass has started to grow, all areas and parts of areas that fail to show a uniform stand of grass shall be seeded repeatedly until all areas are covered with a satisfactory growth of grass.

3.4 RESTORATION

- A. In locations where the Work passes through existing grass, weed brush or tree-surfaced areas that are not covered by a specific lawn repair item, surface restoration shall be as follows:
  - 1. After completion of backfilling, the existing loam and organic ground cover materials that were salvaged during excavation shall be returned to the top of the trench.
  - 2. After natural settlement and compaction has taken place, the trench surface shall be harrowed, dragged and raked as necessary to produce a smooth and level surface.
  - 3. The area is then to be sowed with “orchard grass” or “rye grass” or other such materials to hold the soil and produce a growth similar to that existing prior to construction.

3.5 GUARANTEE PERIOD AND FINAL ACCEPTANCE

- A. At the end of the guaranteed period, inspection will be made by the Engineer upon written request submitted at least 10 days before the anticipated date. Seeded areas not demonstrating satisfactory stands as outlined above, as determined by the Engineer, shall be renovated, reseeded and maintained meeting all requirements as specified herein.
- B. After all necessary corrective work has been completed, the Engineer shall certify in writing the final acceptance of the seeded areas.

END OF SECTION

SECTION 02820

ASBESTOS ABATEMENT

PART 1 GENERAL

1.1 GENERAL PROVISIONS

- A. The work covered in this section includes the minimum procedures that must be employed during abatement of asbestos-containing materials (ACM).
  - 1. ACM, defined as greater than or equal to ( $\geq$ ) one percent (1%) asbestos, has been identified, will be impacted by the demolition, and require abatement.
- B. Refer to other Sections of these Specifications to determine the type and extent of work therein affecting the work of this Section, whether or not such work is specifically mentioned herein.

1.2 RELATED INFORMATION

- A. Related Sections
  - 1. Section 02222, Building Demolition
  - 2. Section 02830, Lead-Based Paint Management
  - 3. Section 02840, PCB-Contaminated Building Materials Abatement
  - 4. Section 02850, Hazardous Materials Management
- B. Related Documents
  - 1. ATC AHERA 3 Year Re-Inspection Report, dated May 3, 1999
  - 2. ATC Limited Asbestos Inspection Report, dated June 24, 2011
- C. Related Drawings
  - 1. HBM-1 Hazardous Building Materials Abatement Plan – Lower and Upper Levels
  - 2. HBM-2 Hazardous Building Materials Abatement Plan - Roof

1.3 PROJECT DESCRIPTION

- A. The scope of work to be performed includes, but is not limited to, the proper removal, handling, and disposal of ACM to be disturbed during demolition activities of the North Wing and Center Section of the building. Refer to Table 1 at the end of this Section for base bid asbestos-containing materials scheduled to be removed.
- B. Window caulk was determined to contain PCBs at concentrations  $\geq 50$  parts per million (ppm). Window glazing, door caulk, and various paints throughout the building were determined to contain PCBs at concentrations  $< 50$  ppm but  $> 1$  ppm. Refer to Section 02840 for PCB-Contaminated Building Materials Abatement. Table 1 below indicates which items must be removed/disposed as mixed asbestos / EPA Regulated PCB Waste.
- C. The Asbestos Abatement Contractor (the “Contractor”) must review all related documents and drawings and conduct site visits as required to develop a comprehensive understanding of ACM required to be removed at the Site.

- D. Base Bid asbestos abatement work will include, but is not necessarily limited to, the ACM identified in Table 1: Base Bid Scope of Work located at the end of this Section.
1. The quantities in the tables are provided to establish the order of magnitude of the abatement project.
  2. Actual quantities may vary.
  3. It is the sole responsibility of the Contractor to visit the site, review the Contract Documents and determine the quantities of ACM to be removed when developing their Bid.

#### 1.4 APPLICABLE CODES

- A. The Contractor must be solely responsible for conducting this project and supervising all work in conformance with all federal, state, and local regulations and guidelines pertaining to asbestos abatement. Specifically, the Contractor must comply with the following requirements:
1. United States Environmental Protection Agency (EPA) National Emissions for Hazardous Air Pollutants (NESHAP) Regulations (Title 40 CFR, Part 61, Subpart M)
  2. EPA Asbestos Hazard Emergency Response Act (AHERA) Regulations (Title 40 CFR, Part 61, Subpart E)
  3. Occupational Safety and Health Administration (OSHA) Asbestos Regulations (Title 29 CFR, Part 1926.1101)
  4. Connecticut Department of Public Health (CTDPH) Standards for Asbestos Abatement (Sections 19a-332a-1 to 19a-332a-16 of the Connecticut General Statutes (CGS))
  5. CTDPH Licensing and Training Requirements for Persons Engaged in Asbestos Abatement and Asbestos Engineer Services (Sections 20-440-1 to 20-440-9 and Section 20-441 of the CGS)
  6. Connecticut Department of Energy and Environmental Protection (CTDEEP) Regulations (Section 22a-209-8 (I) and Section 22a-220 of the CGS)
  7. International Building Code as adopted by the State of Connecticut Building Code including amendments)
  8. Connecticut State Fire Safety Code
  9. Local health and safety codes, ordinances or regulations pertaining to asbestos remediation and all national codes and standards including American Society for Testing and Materials (ASTM), American National Standards Institute (ANSI), and Underwriter's Laboratories

#### 1.5 EXEMPTIONS

- A. This project was designed by a CTDPH licensed Asbestos Project Designer employed by Tighe & Bond, Inc. (The "Designer")
1. Any deviation from these specifications requires written approval and authorization from the Designer.

- B. Any deviations from CTDPH Standards for Asbestos Abatement Sections 19a-332a-1 through 19a-332a-16 must be requested in writing and submitted to the CTDPH for approval. It should be noted that these deviations do not necessarily provide the Contractor with a change order.

#### 1.6 FINAL RE-OCCUPANCY AIR CLEARANCE

- A. Following the completion of a final visual inspection and the encapsulation phase of the work, the Engineer must collect final re-occupancy clearance air samples inside the work area per CTDPH Standards for Asbestos Abatement regulations.
- B. The Owner must be responsible for the payment of costs associated with the sampling and analysis of the initial final re-occupancy air clearance samples only.
  - 1. The Contractor must be responsible for the payment of all costs associated with the collection and analysis of additional final clearance air samples if the first set of samples fail to satisfy the clearance criteria.
- C. Contractor must not conduct demolition or other dust-generating activities during final re-occupancy air clearance sampling.

#### 1.7 WORK SITE SAFETY PLAN

- A. The Contractor must establish a set of emergency procedures and must post them in a conspicuous place at the work site. The safety plan should include provisions for the following:
  - 1. Evacuation of injured workers.
  - 2. Emergency and fire exit routes from all work areas.
  - 3. Emergency first aid treatment.
    - a. Local hospital name and phone number.
  - 4. Most direct route to the Site. Local telephone numbers for emergency services including ambulance, fire, and police.
    - a. A method to notify workers in the event of a fire or other emergency requiring evacuation of the building.
  - 5. Confined space entry program (if applicable).
  - 6. Site security program.
- B. The Contractor is responsible for training all workers in these procedures.
- C. This Work Site Safety Plan may overlap with the requirements specified in Section 01350 Health and Safety Plan.

#### 1.8 CONTROL OVER REMOVAL WORK

- A. All Contractor work procedures must be monitored by the Contractor's "Competent Person" to ensure that areas outside the designated work locations do not become contaminated. The following controls must be implemented each working day to help ensure this:
  - 1. Prior to work on any given day, the Contractor's designated "Competent Person" must evaluate job tasks with respect to safety procedures and requirements

specified to prevent contamination of the building or the employees. This includes a visual survey of the work area and the decontamination enclosure systems.

- B. The Contractor must maintain control of and be responsible for access to all work areas to ensure the following requirements:
  - 1. Nonessential personnel are prohibited from entering the work area.
  - 2. All authorized personnel entering the work area must sign the work area entry log.
  - 3. All authorized personnel entering the work area must read the "worker protection procedures" which are posted at the entry points to the enclosure system and must be equipped with properly fitted respirators and protective clothing.
  - 4. All personnel who are exiting from the decontamination enclosure system must be properly decontaminated.
  - 5. Asbestos waste that is taken out of the work area must be properly bagged and labeled in accordance with these specifications. The surface of the bags must be decontaminated. Asbestos waste leaving the enclosure system must be transported off site or immediately placed in locked, posted temporary storage containers on site, and be removed within 24-hours of the project conclusion.
  - 6. Any material, equipment, or supplies that are brought out of the decontamination enclosure system must be cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

#### 1.9 SITE SECURITY

- A. The Contractor must be responsible for the security of regulated areas.
- B. Post required asbestos abatement warning signs at entrances to the work area including the waste load out and worker decontamination chamber.
- C. The Contractor must have a supervisor monitoring the entrance of the worker decontamination chamber during abatement work.
- D. The Contractor must install plywood window barriers that will accommodate all negative pressure exhausts during abatement.

#### 1.10 PERSONNEL PROTECTION

- A. Prior to commencing work, instruct all workers in all aspects of personnel protection, work procedures, emergency procedures and use of equipment including procedures unique to this project.
- B. Respiratory protection must meet the requirements of OSHA as required in Title 29 CFR Parts 1910.134, 1926.11, and 1926.62.
- C. A formal respiratory protection program must be implemented in accordance with Title 29 CFR, Part 1926.1101 and Title 29 CFR, Part 1910.134.
- D. The Contractor must conduct exposure assessment air sampling, analysis and reporting to ensure the workers are using appropriate respiratory protection.
- E. The Contractor must provide appropriate respiratory protection for each worker and ensure usage during potential asbestos exposure.

- F. The Contractor must provide respirators from among those approved as being acceptable for protection by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of Title 30 CFR, Part II.
- G. The Contractor must provide an adequate supply of filters for respirators in use.
- H. Minimum respiratory protection must be as follows:

<u>Air borne Asbestos Level:</u>	<u>Required Respirator:</u>
Not in excess of 1 f/cc (10 x PEL)	Half facepiece mask air purifying or otherwise as required respirator other than a disposable respirator, equipped with HEPA P 100 filters
Not in excess of 5 f/cc (50 x PEL)	Full facepiece air purifying respirator equipped with HEPA P 100 filters.
Not in excess of 100 f/cc (1,000 x PEL)	Tight-fitting powered air purifying respirator equipped with HEPA P 100 filters, or any supplied air respirator operated in continuous flow mode.
Not in excess of 100 f/cc (1,000 x PEL)	Full facepiece supplied air respirator operated in pressure demand mode.
Greater than 1,000 f/cc (10,000 x PEL)	Full facepiece supplied air respirator unknown operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus

Note:

1. Respirators assigned for higher airborne fiber concentrations may be used at lower concentrations.
2. A high efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.
3. In addition to the selection criteria in this section, the Contractor must provide a tight-fitting powered air purifying respirator equipped with high efficiency filters or a full facepiece supplied air respirator operated in the pressure demand mode equipped with HEPA egress cartridges or an auxiliary positive pressure self-contained breathing apparatus for all employees within the regulated area where Class I work is being performed for which a negative exposure assessment has not been produced and the exposure assessment indicates the exposure level will not exceed 1 f/cc as an 8-hour time weighted average. A full facepiece supplied air respirator operated in the pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus must be provided under such conditions if the exposure assessment indicates exposure levels above 1 f/cc as an 8-hour time weighted average.

- 4. If compressed air is used for supplied air respirators, this air will meet the requirements for grade D breathing air as described by the Compresses Gas association commodity Specification G-7.1. The compressor will be equipped with the necessary safety devices and sorbents/filters and be situated to avoid entry of contaminated air. In addition, the compressor will be equipped with alarms to indicate failure or overheating, and additional alarms for indicating the presence of carbon monoxide. Airline couplings will be incompatible with outlets for other gas systems to prevent inadvertent servicing of airline respirators with non-respirable gases.
- I. The Contractor must provide and require all workers to wear protective clothing in Work Areas where asbestos fiber concentration exceeds permissible limits established by the OSHA or where contamination exists. Protective clothing must include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings.
- J. The Contractor must ensure that all authorized persons entering contaminated areas are equipped with proper respirators and protective clothing.

**1.11 WORKER PROTECTION PROCEDURES**

- A. The Contractor must monitor airborne asbestos concentrations in the workers' breathing zone to establish conditions and work procedures for maintaining compliance with OSHA Regulations Title 29 CFR Part, 1910.1001 and Part 1926.1101.
- B. The Contractor's air sampling professional must document all air sampling results and provide all air sampling reports as soon as feasible. OSHA air monitoring results must be posted at a conspicuous location at the job site.
- C. All personnel air sampling must be conducted in accordance with methods described in OSHA standards Title 29 CFR 1910.1001 and 29 CFR 1926.1101.
- D. The Contractor is responsible for complying with all additional OSHA regulations while performing work on this project.

**1.12 WORKER QUALIFICATIONS, TRAINING, AND EDUCATION**

- A. Contractor is required to have a minimum OSHA Class I-certified Supervisor on-site at all times work is in progress.
- B. Contractor is required to have an accredited asbestos Supervisor in each work area at all times work is in progress.
  - 1. Supervisor must be fluent in English.
- C. The Supervisor must be thoroughly familiar and experienced with asbestos abatement and related work and must enforce the use of all safety procedures and equipment. He/she must be knowledgeable of EPA, OSHA, CTDPH, and NIOSH requirements and guidelines.
- D. Enforce strict discipline and good working order at all times among employees. Do not employ any person not skilled in the work assigned, nor anyone who has not received documented notice of the hazards of asbestos abatement, formal training in the use of respirators, safety procedures, equipment, clothing, and work procedures. All workers must be licensed in accordance with applicable state regulations.

**1.13 SUBMITTALS**

- A. The Contractor will submit the following submittals to the Engineer at least ten calendar days prior to the commencement of removal work:



1. Submit copies of all notifications, permits, applications, licenses and like documents required by federal, state, or local regulations obtained or submitted in proper fashion.
2. Written Contractor Work Plan that summarizes the Contactor's means and methods related to the demolition, containment, management, and disposal of regulated asbestos and wastes.
  - a. Figure(s) depicting locations of decontamination systems and negative air machines and associated exhaust.
  - b. Proposed removal procedures along with management and disposal of ACM.
  - c. Information on how and where wastes will be stored, marked, and disposed of, and how field equipment will be decontaminated.
  - d. A description of the waste load-out process and route to disposal containers shall also be included.
  - e. Address personal protective equipment, worker health and safety training, and decontamination procedures.
  - f. Copies of asbestos abatement training for all workers and supervisors involved with ACM removal.
3. Submit a schedule to the Owner and the Engineer that defines a timetable for executing and completing the project, including work area preparations, removal, cleanup, decontamination, and final clearance air monitoring (if applicable).
4. Submit the current valid State of Connecticut Asbestos Abatement Contractor license and certificate of insurance.
5. Submit the name and address of the hauling contractor and landfill to be used. Also submit current valid operating permits and certificates of insurance for the transporter and landfill.
6. Submit details for the construction of the decontamination systems and the isolation of the work areas as may be necessary for the proper removal, handling, and disposal of ACM in compliance with this specification and applicable regulations. Include any proposed deviations from these specifications and applicable regulations.
7. Submit the training, medical, respirator fit test records, and CTDPH asbestos license of each employee who may be on the Site.
8. If the Contractor's CTDPH-licensed Asbestos Abatement Supervisor is not conducting OSHA-required employee exposure monitoring, submit the qualifications of the air sampling professional that the Contractor proposes to use for this project for this task.
9. Submit detailed product information on all materials and equipment proposed for asbestos abatement work on this project.
10. Submit pertinent information regarding the qualifications of the Project Supervisor (competent person) for this project, as well as a list of past projects completed.
11. Submit a chain-of-command, with contact information, for the project.

12. Submit a site-specific Work Site Safety Plan (WSSP) for the project detailed in Section 1.7. If this information is contained within a WSSP prepared by the Site's General Contractor, a copy must be submitted for review.
  13. Submit a written site-specific Respiratory Protection Program for employees for the Work, including make, model and National Institute of Occupational Safety and Health (NIOSH) approval numbers of respirators to be used at the Site (if applicable).
  14. Submit the proposed electrical safeguards to be implemented by a State of Connecticut-licensed electrician, including but not limited to location of transformers, GFCI outlets, lighting, and power panels necessary to safely perform the Work, including a description of electrical hazards and a safety plan for common practices in the work area. This may also include a safety plan for temporary lighting, extension cords, and other powered equipment used in the work area (locations, daily inspections, etc.).
  15. Submit the proposed worker orientation plan that, at a minimum, includes a description of asbestos hazards and abatement methodologies, a review of worker protection requirements, and the outline of safety procedures.
- A. The Contractor will submit the following to the Engineer during the course of the work:
1. Daily results of all personal air sampling.
  2. Certificates, training, medical, and fit-test records for new employees to start work (24 hours in advance of work).
  3. Contractor site logs and containment sign-in sheets.
  4. Revised Notification, if any.
  5. Copies of Waste Shipment Records (WSRs) for waste that leaves the site.
- B. The following must be submitted to the Engineer within forty-five days of the completion of work:
1. Completed copies of WSRs.
  2. Remaining personal air sampling results and site logs.

#### 1.14 NOTIFICATIONS, POSTINGS, SUBMITTALS, AND PERMITS

- A. The Contractor must make the required written notifications as follows prior to commencement of asbestos abatement.
1. CTDPH Asbestos Abatement Notification
    - a. Submit Notification prior to the commencement of abatement totaling greater than or equal to ( $\geq$ ) 10 linear feet (LF) and/or 25 square feet (SF) to the CTDPH.
    - b. The notification and associated fee are required 10-calendar days prior to the start of the abatement project and/or phase. The Contractor must include the notification fees in their base bid price.
    - c. The notification must be submitted to the following agency:
      - 1) Connecticut Department of Public Health

410 Capital Avenue  
MS #51 AIR  
P.O. Box 340308  
Hartford, CT 06134

- d. The minimum information in the notification to the CTDPH must include:
  - 1) Name and address of building Owner/Operator
  - 2) Building location
  - 3) Building size, age, and use
  - 4) Asbestos quantity
  - 5) Work schedule, including proposed start and completion date
  - 6) Asbestos removal procedures to be used
  - 7) Name and location of disposal site for generated asbestos waste, residue, and debris

2. EPA NESHAP Asbestos Abatement Notification

- a. Submit Notification prior to the commencement of asbestos abatement associated with the building renovation.
- b. The notification is required 10-working days (excluding weekends and federal holidays) prior to the start of the abatement project and/or phase.
- c. The notification must be submitted to the following agency:
  - 1) Asbestos NESHAP Coordinator  
EPA Region 1  
5 Post Office Square  
Suite 100  
Boston, MA 02109
- d. The minimum information in the notification to the EPA must include:
  - 1) Name and address of building Owner/Operator
  - 2) Building location
  - 3) Building size, age, and use
  - 4) Asbestos quantity
  - 5) Work schedule, including proposed start and completion date
  - 6) Asbestos removal procedures to be used
  - 7) Name and location of disposal site for generated asbestos waste, residue, and debris

1.15 DEFINITIONS

- A. Abatement: Procedures to control fiber release from ACM; includes removal, encapsulation, and enclosure.

- B. Air Monitoring: The process of measuring the total airborne fiber concentration of an area, or a person.
- C. Amended Water: Water to which a surfactant (wetting agent) has been added.
- D. Asbestos: The name given to a number of naturally occurring fibrous silicates. This includes the serpentine forms and the amphiboles, and includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite, or any of these forms, which have been chemically altered.
- E. Asbestos Felt: A product made by saturating felted asbestos with asphalt, or another suitable bindery, such as a synthetic elastomer.
- F. Asbestos Fibers: Those particles with a length greater than five (5) microns and a length to diameter ratio of 3:1 or greater.
- G. Asbestos Project Designer: The State of Connecticut-licensed Asbestos Consultant – Project Designer for this project is Nathan Yergeau (License No. 000288).
- H. Asbestos Work Area: A regulated area as defined by OSHA Title 29 CFR, Part 1926.1101 where asbestos abatement operations are performed, which is isolated by physical barriers to prevent the spread of asbestos dust, fibers, or debris. The regulated area must comply with requirements of regulated area for demarcation, access, respirators, prohibited activities, competent persons and exposure assessments and monitoring.
- I. Caulking: Resilient mastic compound often having a silicone bituminous or rubber base; used to seal cracks, fill joints, and prevent leakage. Typical applications: around windows, and doors. Caulking is at joints between two dissimilar materials. (i.e., masonry to wood, masonry to steel)
- J. Clean Room: An uncontaminated area or room, which is a part of the worker decontamination enclosure with provisions for storage of worker street clothes and protective equipment.
- K. Clearance Sampling: Final air sampling performed aggressively after the completion of the abatement project in a regulated area. Air samples collected by the air sampling professional having a total airborne fiber concentration of less than 0.010 fibers per cubic centimeter of air (fibers/cc) in each of five (5) samples collected inside the containment will denote acceptable clearance sampling by Phase Contrast Microscopy (PCM), or five air samples collected inside the containment by the air sampling professional having an average asbestos concentration of less than 70 structures per square millimeter (S/mm<sup>2</sup>) of air will denote acceptable clearance sampling for Transmission Electron Microscopy (TEM).
- L. Competent Person: As defined by OSHA Title 29 CFR, Part 1926.1101, a representative of the Abatement Contractor who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure. The Competent Person has authority to take prompt corrective measures, and to eliminate such hazards during asbestos removal. The Competent Person must be properly trained in accordance with EPA's Model Accreditation Plan (MAP).
- M. Containment – An enclosure within the building which establishes a contaminated area and surrounds the location where ACM and/or other toxic or hazardous substance removal is conducted and establishes a Control Work Area.

- N. Curtained Doorway: A device to allow ingress and egress from one area to another while permitting minimal air movement between the areas. Two curtained doorways spaced a minimum of six feet apart can form an airlock.
- O. Damp proofing: Application of a water impervious material to surface (such as a wall) to prevent penetration of moisture, typically at foundation or below grade surface.
- P. Decontamination Enclosure System: A series of connected areas, with curtained doorways between any two adjacent areas, for the decontamination of workers and equipment. A decontamination enclosure system always contains at least one airlock and is adjacent and connected to the regulated area, where possible.
- Q. Encapsulant: A liquid material which can be applied to ACM, which controls the possible release of asbestos fibers from the materials either by creating a membrane over the surface (bridging encapsulant) or penetrating the material and binding its components together (penetrating encapsulant).
- R. Engineer: Third Party Engineering/Environmental Consultant.
- S. Equipment Room: Any contaminated area or a room that is part of the worker decontamination enclosure with provisions for storage of contaminated clothing and equipment.
- T. Fixed Object: Unit of equipment or furniture in the work areas that cannot be removed from the work area.
- U. Friable Asbestos Materials: Any material that contains more than 1% asbestos by weight, which can be crumbled, pulverized, or reduced to powder by hand pressure.
- V. Glazing Compound: Any compound used to hold window glass in place, also referred to as putty, or glazier's putty. Is not field applied, usually installed during manufacture of windows.
- W. HEPA Filter: High Efficiency Particulate Air (HEPA) filter in compliance with ANSI Z9.2.
- X. HEPA Vacuum Equipment: Vacuum equipment fitted with a HEPA filter system for filtering the effluent air from the unit.
- Y. Movable Object: Unit of equipment or furniture in the work area that can be removed from the work area.
- Z. Negative Air Pressure Equipment: A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a regulated area (negative with respect to adjacent unregulated areas), and capable of maintaining a constant, low velocity air flow into regulated areas from adjacent unregulated areas.
- AA. NESHAP: National Emissions Standard for Hazardous Air Pollutants regulations enforced by the EPA.
- BB. Permissible Exposure Limit (PEL): The maximum total airborne fiber concentration to which an employee is allowed to be exposed. The new limit established by OSHA Title 29 CFR, Part 1926.1101 is 0.1 fibers per cubic centimeter (fibers/cc) as an eight (8)-hour time-weighted average (TWA), and 1.0 fibers/cc averaged over a sampling period of 30 minutes as an Excursion Limit. The Contractor must be responsible for maintaining work areas in a manner that this standard is not exceeded.
- CC. Project Monitor: A professional capable of conducting air monitoring and analysis of schemes. This individual should be an industrial hygienist, an environmental scientist, or an Engineer with experience in asbestos air monitoring and worker protection

equipment and procedures. This individual should have demonstrated proficiency in conducting air sample collection in accordance with OSHA Title 29 CFR, Parts 1910.1001 and 1926.1101.

- DD. RCRA: The Resource Conservation and Recovery Act (EPA Title 40 CFR, Parts 260 - 265).
- EE. Regulated Area: An area established by the employer to demarcate where Class I, II, and III asbestos work is conducted and any adjoining area where debris and waste from such asbestos work accumulate, and a work area within which total airborne fiber concentrations exceed, or there is a reasonable possibility that they may exceed the PEL.
- FF. Shower Room: A room between the clean room and the equipment room in the work decontamination enclosure with hot and cold running water and suitably arranged for employee showering during decontamination. The shower room is located in an airlock between the contaminated area and the clean area.
- GG. Totally Enclosed Manner – A manner that will ensure no exposure of human beings or the environment to a concentration of asbestos.
- HH. Transport Vehicle – A motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (e.g., trailer, railroad freight car) is a separate transport vehicle.
- II. Waterproofing: Material, usually a membrane or applied compound (tar/mastic), used to make a surface impervious to water, includes concealed conditions (applications around doors, windows, and in wall cavities); sometimes combined with felts.

## PART 2 MATERIALS AND EQUIPMENT

### 2.1 MATERIALS

- A. Deliver all materials in the original packages, containers, and/or bundles bearing the name of the manufacturer, brand name, and product technical description.
- B. Damaged or deteriorating materials must not be used and must be removed from the premises. Material that becomes contaminated with asbestos must be decontaminated or disposed of as asbestos waste.
- C. Polyethylene sheet in a roll size to minimize the frequency of joints must be delivered to job site with factory label indicating 4 or 6 mils.
- D. Polyethylene disposable bags must be true 6-mil with preprinted labels.
- E. Tape or adhesive spray must be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheets to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.
- F. Surfactant (wetting agent) must consist of 50 percent polyoxyethylene ether and 50 percent polyoxyethylene ester, or equivalent, and must be mixed with water to provide a concentration of one ounce surfactant to five gallons of water or as directed by manufacturer.
- G. Impermeable containers are to be used to receive and retain any asbestos-containing or contaminated materials until disposal at an acceptable disposal site. (The containers must be labeled in accordance with OSHA Standard Title 29 CFR, Part 1926.1101.) Containers must be both air and watertight.

- H. Labels and signs, as required by OSHA Standard Title 29 CFR, Part 1910.1001 will be used.
- I. Encapsulant must be bridging or penetrating type which has been found acceptable to the Owner. Usage must be in accordance with manufacturer's printed technical data.
- J. Disposal labels must be preprinted on self-adhesive labels with the generator name, abatement site and contractor's name and address. Labels must not be photocopied and applied with spray adhesive.

## 2.2 TOOLS AND EQUIPMENT

- A. Provide suitable tools for asbestos removal, encapsulation, and enclosure.
- B. The Contractor Personnel exposure surveillance per OSHA requirements.
- C. The Contractor must have available sufficient inventory on site for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.
- D. The Contractor is responsible for securing electrical power before the commencement of asbestos removal.
- E. The Contractor must provide temporary electrical power sources such as generators (when required).
- F. The Contractor must have available shower stalls and sufficient hose length and a drain system equipped with 5-micron filters.
- G. Exhaust air filtration system units must contain HEPA filter(s) capable of sufficient air exhaust to create negative pressure of 0.02 inches of water within the enclosure with respect to the outside area.
  - 1. Equipment must be checked for proper operation by smoke tubes or a differential pressure gauge before the start of each shift and at least twice during the shift.
  - 2. Adequate exhaust air must be provided for a minimum of four air changes per hour within the enclosure.
  - 3. No air movement system or air filtering equipment must discharge unfiltered air outside.
- H. Vacuum units, of suitable size and capacities for project, must have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 micrometers in diameter or larger.
- I. The Contractor will have reserve exhaust air filtration system units in order to maintain negative air filtration in the event that a unit malfunctions during use.
- J. The Contractor must have available and use recording manometers to monitor pressure differential between the work area and occupied areas of the building. A minimum negative pressure differential of 0.02 inches of water column must be maintained.
- K. The Contractor must have available spray equipment capable of mixing a wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.
- L. HEPA filtered local exhaust ventilation must be utilized during the installation of enclosures and supports where ACM may be disturbed.

## PART 3 EXECUTION

### 3.1 SUMMARY OF WORK

- A. ACM to be abated, removed, or otherwise managed is located throughout the building as shown on the Drawings and described in this Section. Contractor must review the entire Project Manual and all Drawings and understand the full scope of hazardous building materials abatement and material demolition before starting the Work.
- B. Specific locations where select ACM is located and must be abated are called out in the sub-parts below. Where specific locations are not called out, refer to Table 1 at the end of this Section and the Drawings. All ACM that is identified in this Section and on the Drawings must be abated regardless of where it is identified in the documents.

### 3.2 PRE-CONSTRUCTION MEETING

- A. At least one week prior to the start of work, a Pre-Construction meeting will be scheduled and must be attended by the Contractor and any Sub-Contractors. The assigned Contractor Site Supervisor must also attend this meeting.
- B. The Contractor must present a detailed project schedule and project submittals prior to the Pre-Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed, and the Owner and the Engineer will inform the Contractor of any scheduling adjustments for this project.
- C. Following the Pre-Construction meeting, the Contractor must submit a revised schedule (if needed) no later than one week after the meeting.

### 3.3 INTERIOR WORK AREA PREPARATION – GENERAL

- A. Where necessary, deactivate electrical power, including receptacles and light fixtures. Under no circumstances during abatement/decontamination procedures will lighting fixtures be permitted to be operating when amended water spray may contact the fixture.
- B. When shutting down electrical power, including receptacles and light fixtures, lock and tag out procedures must be used for circuits associated with the electrical components in the work area(s).
- C. When necessary, provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All temporary installations are to be made by a licensed electrician, installed outside work areas, and permitted as required. Temporary power shall be continuous. Portable generators for use during abatement are not authorized.
- D. Shut down and/or isolate heating, cooling, and ventilation air systems or zones to prevent contamination and fiber dispersal to other areas of the structure. Lock and tag out circuits associated with heating and cooling units. During the work, vents within the work area must be sealed with duct tape and polyethylene sheeting.
- E. Seal off all openings, including but not limited to windows, corridors, doorways, skylights, ducts, grills, diffuser, and any other penetration of the work areas, with polyethylene sheeting minimum of 6-mil thick sealed with duct tape. This includes doorways and corridors which will not be used for passage during work areas and occupied areas. Install five-micron water filtration socks in all floor drains prior to sealing.



- F. Where friable ACM is present, establish worker decontamination facility, critical barriers, and negative air filtration prior to conducting pre-cleaning activities. Pre-clean fixed objects within the work areas, using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and enclose with minimum 6-mil plastic sheeting sealed with duct tape.
- G. Pre-clean movable objects within the work areas, using HEPA vacuum equipment and wet cleaning methods as appropriate. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters.
- H. After HEPA vacuum pre-cleaning, conduct work area preparation in accordance with this Specification section.
- I. Where fixed walls are not used, one layer of 6-mil polyethylene sheeting will be applied to a rigid framework of wood, metal, or PVC.
- J. Install two layers of 4-mil polyethylene wall sheeting over all wall surfaces and critical barrier (where wall materials are not being removed as ACM). All overlaps must be sealed with tape or spray adhesive.
- K. Cover all floors in the work area with two layers of 6-mil polyethylene sheeting (where flooring materials are not being removed as ACM). Extend the polyethylene flooring a minimum of 12 inches up the walls. Ensure that the wall sheeting overlaps the floor sheeting from the top.
- L. Where containments extend above suspended or fixed ceilings, remove the ceiling as necessary to perform installation of isolation barriers and wall sheeting above ceiling. Wall sheeting must extend to the top of each wall in ceiling plenum areas.
- M. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to fire officials.
- N. Create pressure differential between work areas and occupied areas by the use of acceptable negative air pressure equipment. The Contractor must ensure required negative air pressure is obtained throughout the containment and the total volume of air within the work area is changed every 15 minutes.
- O. Install a manometer within each work area where Class I work will be performed to monitor the negative pressure within the work area.
- P. Post all approaches to each work area with Asbestos Warning signs. Warning signs must be of size and type that are easily readable and are visible from all approaches to the work areas and adhere to regulatory requirements.
- Q. Establish a work area access control log at the entrance to each work area. Authorized personnel entering the work area must sign in upon entering the area and sign out upon exiting the area.
- R. Establish airless spray equipment within each work area. Airless spray equipment must be capable of reaching all areas within each work area.

#### 3.4 CONTIGUOUS PERSONNEL DECONTAMINATION SYSTEM

- A. The Contractor must establish contiguous to each work area, where feasible, a personnel decontamination system consisting of equipment room, shower room and clean room in series. Access between the contaminated and uncontaminated areas must be through this decontamination enclosure only. The decontamination system

must be constructed of two layers of 6-mil polyethylene sheeting. Prefabricated "pop-up" decontamination chambers will not be permitted on this project.

- B. Access between rooms in decontamination system must be through double flap-curtained openings. Clean room, shower room and equipment room within decontamination system must be completely sealed ensuring that the sole source of air flow through this area originates from uncontaminated areas outside the work area.
- C. The shower unit must be equipped with an adequate supply of warm water. A shower filtration pump containing two 5-micron sock filters, or the best available technology must be installed to filter shower water. Filtered shower water must be discharged into sanitation drains and must not be discharged into storm drains or onto floor or ground surfaces.
- D. The shower room must have soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA Title 29 CFR, Part 1926.1101, and Part 1910.141.

### 3.5 REMOTE PERSONNEL DECONTAMINATION SYSTEM

- A. The Contractor must establish a remote personnel decontamination system where contiguous decontamination systems are not feasible. The use of a remote decontamination unit must be indicated on the State Notification of Asbestos Abatement and include an attached equipment room. Personnel must remove their contaminated work suits in the equipment room, then don clean work suits, and proceed to a shower that is not adjacent to the work area. Access between the contaminated and uncontaminated areas must be through this decontamination enclosure only. The decontamination system must be constructed of two layers of 6-mil polyethylene sheeting. Prefabricated "pop-up" decontamination chambers will not be permitted on this project.
- B. Access between rooms in decontamination system must be through double flap-curtained openings. Clean room, shower room and equipment room within decontamination system must be completely sealed ensuring that the sole source of air flow through this area originates from uncontaminated areas outside the work area.
- C. The shower unit must be equipped with an adequate supply of warm water. A shower filtration pump containing two 5-micron sock filters, or the best available technology must be installed to filter shower water. Filtered shower water must be discharged into sanitation drains and must not be discharged into storm drains or onto floor or ground surfaces.
- D. The shower room must have soap and an adequate supply of drying towels. Provide an adequate number of shower units in accordance with OSHA Title 29 CFR, Part 1926.1101, and Part 1910.141.

### 3.6 WASTE LOAD OUT SYSTEMS

- A. The Contractor may elect to establish waste load out systems, where feasible, attached to the work areas.
- B. Waste load out systems must consist of a minimum of two chambers that are of suitable size for transporting waste out of the work area.
- C. Waste load out systems must be constructed of two layers of 6-mil polyethylene sheeting.
- D. Access between rooms in the waste load out system must be through double flap-curtained openings. The waste load out system must be used for decontaminating

waste containers, bags, bundles, etc. prior to removal from the work area and transporting waste from the work area to the non-work area.

- E. Persons working inside the contaminated work area are not permitted to pass from the work area to the non-work area through the waste load out system. Persons inside the contaminated work area must not be permitted to enter into the clean area of the waste load out system.
- F. Waste load out systems must remain sealed at all times except during decontamination of waste containers and transport of waste from the work area to the non-work area.

### 3.7 WORK AREA EXHAUST

- A. Install sufficient quantity of portable HEPA-filtered exhausts to maintain each interior work area, including the Decontamination Facility, under negative pressure, and to reduce airborne asbestos fiber concentrations.
- B. The exhaust(s) must be capable of providing at least an inward velocity through any unsealed openings, including the Personnel Decontamination Facility, of at least 100 feet per minute (fpm), and provide at a minimum, four full air changes per hour throughout the work area.
- C. All exhaust air must pass through a HEPA filter before being discharged to the exterior of the building.
- D. Deficient air flows must be immediately reported, and work ceased until the situation is corrected.
- E. Exhaust system must be operated constantly from the time that preparation is completed, until final air clearance certification is obtained.
- F. The Contractor must install plywood window barriers (or similar) that will accommodate all negative pressure exhausts during abatement.

### 3.8 EXTERIOR WORK PREPARATION – GENERAL

- A. Where exterior non-friable ACM is to be removed outdoors, post asbestos abatement warning signs and erect temporary barricades to create regulated areas. Regulated areas should be kept clear of any persons not fully trained and protected against exposure.
- B. Maintain an operable remote worker decontamination system in accordance with part 3.5 of this Section.
- C. Maintain a work area access control log for each exterior work area.

### 3.9 ASBESTOS REMOVAL PROCEDURES - GENERAL

- A. The Contractor must have a designated "Competent Person" on the job at all times to ensure establishment of a proper enclosure system and proper work practices throughout the project. At a minimum, the Contractor's Competent Person must perform or supervise the following duties, as applicable:
  - 1. Ensure the integrity of the containment(s) or enclosure(s).
  - 2. Set up procedures to control entry to and exit from the enclosure(s).
  - 3. Supervise employee exposure monitoring.

4. Ensure that employees set up, use, and remove engineering controls, use work practices and personal protective equipment in compliance with applicable regulations and the technical specifications.
  5. Ensure that employees use the worker decontamination facilities and observe decontamination procedures.
  6. Supervise and direct abatement activities in a manner that meets the intent of this technical specification and applicable regulations.
  7. Quantify asbestos waste generated during the project.
  8. Perform final visual inspections in conjunction with the Asbestos Project Monitor.
- B. Abatement work will not commence until all work area preparation is completed in accordance with this Specification and accepted by the Engineer.
- C. Spray asbestos materials with amended water using airless spray equipment or apply approved removal wetting agent to reduce the release of fibers during removal operation. The Engineer will pre-approve use of amended water as the wetting agent.
- D. Spraying of amended water must be adequate to allow the ACM to absorb the amended water. Actual removal of ACM must not be allowed until all ACM has become adequately wet.
- E. Fill disposal containers as removal proceeds, seal filled containers before moving to waste load out system. Wet clean each container thoroughly, double bag, drum or use other approved containerization methods, and apply a caution label before moving to the holding area.
- F. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris.
- G. Solidify all liquid waste prior to containerization for disposal.
- H. Sealed disposal containers and all equipment used in the work area must be included in the cleanup and must be removed from work areas, via the waste load out system at an appropriate time in the cleaning sequence.
- I. At any time during asbestos removal, should the Project Monitor and/or competent person suspect contamination of areas outside the work area(s), all abatement work must stop until steps to decontaminate these areas and eliminate causes of such contamination are completed. Unprotected individuals must be prohibited from entering suspected contaminated areas until air sampling and visual inspections certify decontamination.
- J. Upon acceptance of the work area by the Engineer, the Contractor must apply an even coating of bridging encapsulant to all exposed surfaces contained within the work area. Apply encapsulant in accordance with manufacturer's recommendation.
- K. Re-occupancy air monitoring must be performed within each work area where greater than three linear feet or three-square feet of ACM has been removed.

### 3.10 ASBESTOS REMOVAL PROCEDURES – FLOOR TILE AND ASSOCIATED MASTICS/ADHESIVES

- A. Prior to the removal of any non-friable flooring products, the Contractor must ensure the work area is prepped in accordance with Sections 3.3, 3.4, 3.6, and 3.7 of this Specification.

- B. The floor tile and mastic must be removed/disposed as asbestos waste.
- C. Floor tile and mastic layer(s) are known to exist in multiple layers, under carpeting and under gypsum board wall partitions.
- D. Perform selective demolition to remove any miscellaneous materials that may be in the way of abatement. Decontaminate removed items.
- E. The Contractor must wet the floor with amended water or detergent solution, so that entire surface is wet.
  - 1. Do not allow water to puddle or run off into other areas.
  - 2. If a detergent is used, use it in strict accordance with manufacturer's instructions.
  - 3. Allow time for humidity and water or removal encapsulant to loosen carpet and/or floor tiles prior to removal.
- F. The Contractor must keep floor continuously wet throughout removal operation.
- G. Where asbestos-containing floor tile exists below carpeting, the carpeting and adhesive must be removed in-conjunction with floor tile removal procedures.
- H. Remove tiles using a manual, powered spade, and/or stripping machine.
  - 1. Continuously mist floor in area where work is occurring with amended water, removal encapsulant, or detergent solution.
  - 2. Wet debris generated as necessary to keep continuously wet.
  - 3. Keep floor continuously wet where tile has been removed until after completion of heavy adhesive residue removal.
- I. Remove floor tiles, stack, place in boxes or wrap in felt, and place in labeled disposal bags.
  - 1. At the Contractor's discretion, tiles may be placed directly into durable leak-tight containers.
- J. Following removal of floor tiles, a layer (or layers) of asbestos-containing mastic/adhesive will remain on the floor.
  - 1. The adhesive may be removed using shot/bead blast machines.
  - 2. The Contractor must be responsible for removing all mastic from under floor leveling compounds and must remove and dispose of the floor leveling compounds and underlying mastic as asbestos waste.
  - 3. The waste captured by media-blast operations must be removed from the blast tract hopper, wetted, and disposed of as friable asbestos waste.
- K. The work area(s) are subject to a final visual inspection and re-occupancy air monitoring.

NOTE: There are significant roof leaks located in the North Wing. Extra precautions will need to be made by the Contractor to ensure integrity of containments during floor tile and mastic abatement in this section of the building. Any areas of standing water located inside the building will be addressed and handled by the Contractor during the abatement process.

### 3.11 ASBESTOS REMOVAL PROCEDURES – CEMENT BOARD WALL PANELS

- A. Prior to the removal, the Contractor must ensure the work area is prepped in accordance with Sections 3.3, 3.4, 3.6, and 3.7 of this Specification.
- B. Perform selective demolition to remove any miscellaneous materials that may be in the way of abatement. Decontaminate removed items.
- C. The Contractor must wet the walls with amended water or detergent solution, so that entire surface is wet.
  - 1. Do not allow water to puddle or run off into other areas.
  - 2. If a detergent is used, use in strict accordance with manufacturer's instructions.
- D. ACM is not permitted to be dropped to the floor from heights exceeding ten (10) feet.
- E. Where ACM cement boards are adhered, manual removal of substrates may be required using hand and/or mechanical tools. Dispose of porous substrates (i.e., gypsum, plaster, wood) as asbestos-contaminated waste. Continuously mist air during removal operations to ensure no visible emissions are generated during removal activities.
  - 1. Continuously mist surfaces in area where work is occurring with amended water, removal encapsulant, or detergent solution.
  - 2. Wet any debris generated as necessary to keep continuously wet.
- F. Remove materials, place in boxes or wrap in felt, and place in labeled disposal bags.
  - 1. At the Contractor's option, material may be placed directly into durable leak-tight containers.
- G. The work area(s) are subject to a final visual inspection and re-occupancy air monitoring.

### 3.12 ASBESTOS REMOVAL PROCEDURES – VINYL COVE BASE ADHESIVE

- A. Prior to the removal, the Contractor must ensure the work area is prepped in accordance with Sections 3.3, 3.4, 3.6, and 3.7 of this Specification.
- B. The Contractor must wet the vinyl cove base and adhesive with amended water or detergent solution, so that entire surface is wet.
  - 1. Do not allow water to puddle or run off into other areas.
  - 2. If a detergent is used, use it in strict accordance with manufacturer's instructions.
- C. Vinyl cove bases are adhered to CMU/brick walls, removal of adhesives from substrates may be required using hand and/or mechanical tools. Dispose of porous substrates (i.e., CMU, brick concrete) as asbestos-contaminated waste. Continuously mist air during removal operations to ensure no visible emissions are generated during removal activities.
  - 1. Continuously mist surfaces in area where work is occurring with amended water, removal encapsulant, or detergent solution.
  - 2. Wet debris generated as necessary to keep continuously wet.
- D. Remove materials, place in boxes, or wrap in felt, and place in labeled disposal bags.

1. At the Contractor's option, material may be placed directly into durable leak-tight containers.
  - E. The work area(s) are subject to a final visual inspection and re-occupancy air monitoring.
- 3.13 ASBESTOS INTACT REMOVAL PROCEDURES – SINK UNDERCOATING AND LINOLEUM COUNTERTOPS
- A. The Contractor may elect to remove sink undercoating and linoleum countertops as a non-disturbance activity following CTDPH Circular Letter # 2003-10 for intact removal of non-friable ACM.
  - B. The Contractor must disconnect all plumbing/mechanical components in a manner that does not negatively impact the building or any components to remain.
  - C. The Contractor must disconnect/unbolt and dispose of the sink undercoating and linoleum countertops as ACM, while ensuring that the undercoating and linoleum are not disturbed by unbolting and disconnecting.
  - D. The Contractor must remove materials intact and directly wrap entire unit or dismantled components with two-layers six mil poly sheeting bundles affixed with Asbestos Danger Class 9 DOT (Asbestos NA2212.RQ) stickers for proper disposal.
  - E. If the above materials cannot be removed as a non-disturbance activity, the Contractor must ensure the work area is prepped in accordance with the requirements of Sections 3.3, 3.4, 3.6, and 3.7 of this Specification.
  - F. The work area(s) are subject to a final visual inspection.
- 3.14 ASBESTOS REMOVAL PROCEDURES – EXTERIOR BRICK EXPANSION JOINT CAULK, WINDOW CAULK, DOOR CAULK, AND CEMENT BOARD PANELS
- A. The Contractor must ensure the work area is prepped in accordance with Sections 3.5 and 3.8 of this Specification.
  - B. Minimum specific requirements relative to the removal of exterior asbestos-containing caulk and cement board panels (exterior porticos and soffits) are as follows:
    1. Prior to the removal of exterior caulk, and cement board panels, the contractor must ensure that exterior ground surfaces below each abatement area are protected with 6-mil polyethylene sheeting. The contractor must also ensure that the interior of the building is protected from the work area with 6-mil polyethylene sheeting.
    2. Post asbestos abatement warning signs and erect temporary barricades to create regulated areas. Regulated areas should be kept clear of any persons not fully trained and protected against exposure.
    3. Provide barricade tape, warning signs, and additional proper safety precautions under work areas in case of falling objects.
    4. The contractor must sufficiently wet ACM with removal encapsulant, amended water, or a detergent solution to minimize dust during work.
    5. Remove exterior caulk and cement board panels using hand tools, and place directly into durable leak-tight containers, or two 6-mil poly bags, and properly label.

6. Mechanical tools may be used to break surrounding brick joints to loosen ACM caulk and metal window frames. ACM caulk must be maintained in a non-friable condition during brick joint removal.
  7. Surrounding surfaces, such as brick façade, wood door frames, fiberglass panels, and metal framing must be thoroughly cleaned with HEPA-filter vacuum equipment, and wet-wiped to remove all visible dust and debris. Place waste directly into durable leak-tight containers, or two 6-mil poly bags, and properly label.
  8. Unless an approved Alternate Work Practice (AWP) is obtained, removal of the exterior caulk materials using mechanical equipment must be performed within a negative pressure containment if removal methods render the ACM caulk friable.
  9. The Contractor must dispose of window caulking as mixed Asbestos Waste / EPA Bulk Product PCB waste,  $\geq 50$  ppm and door caulking as mixed Asbestos Waste / CTDEEP PCB Waste  $< 50$  ppm and  $> 1$  ppm.
- C. The work area(s) are subject to a final visual inspection.

### 3.15 ASBESTOS REMOVAL PROCEDURES – NON-FRIABLE ROOFING MATERIALS

- A. The Contractor must ensure the work area is prepped in accordance with Sections 3.5 and 3.8 of this Specification.
- B. Provide sufficient fall protection per OSHA requirements prior to the removal of roofing materials.
- C. Non-friable roofing materials must be maintained in a non-friable condition during removal. Do not subject non-friable roofing materials to cutting, grinding, sanding, abrading or other forces that would render the material friable.
- D. Insulation or other materials in contact with the non-friable asbestos-containing roofing material must be disposed of as asbestos waste.
- E. Prior to the removal of any non-friable roofing materials, the Contractor must ensure that work area preparation has been conducted in accordance with this technical specification section.
- F. The Contractor must sufficiently wet roofing materials with removal encapsulant, amended water, or a detergent solution.
- G. All ACM must be placed directly into disposal bags or must be transferred to the asbestos Waste disposal dumpster. Do not allow waste to accumulate on the roof. The Contractor must ensure that no visible emissions are generated during any portion of the abatement operation.
- H. The Contractor must remove from the roof all abated asbestos-containing roofing materials at the end of each work shift.
- I. Material drop must not exceed eight (8) feet. For heights up to fifteen (15) feet, provide inclined chutes or scaffolding to intercept drops. For heights exceeding fifteen (15) feet, Contractor must provide an enclosed leak-tight chute to transport material to ground not to exceed a height of 49 feet.
- J. For roofing materials that are live loaded into open top waste containers, the Contractor must line the waste container with a minimum of two (2) layers of 6-mil polyethylene sheeting. Secure the waste container at the end of each work shift.



- K. The work area(s) are subject to a final visual inspection.
- L. The Contractor has the option of removing the non-friable roofing materials prior to demolition or leaving them in place during the demolition phase. If the non-friable roofing materials are to be left in place, then they shall either be segregated during demolition and disposed of as non-friable asbestos waste or the entire building waste stream shall be disposed of mixed non-friable asbestos / CT DEEP Regulated PCB Waste.

### 3.16 ASBESTOS REMOVAL PROCEDURES – SPOT REPAIR GLOVEBAG

- A. Where less than three (3) linear/square feet of ACM is to be removed by glove bag operation, post asbestos abatement warning signs and erect temporary barricades to create regulated areas. Regulated areas should be kept clear of any persons not fully trained and protected against exposure.
- B. Provide GFCI devices and temporary power installed in compliance with the applicable electrical codes.
  - 1. Pre-clean surrounding surfaces with HEPA filtered vacuum cleaner.
  - 2. Install one layer of 6-mil polyethylene sheeting on the surface below the glove bag removal location.
  - 3. Install 6-mil glove bag in accordance with OSHA Title 29 CFR, Part 1926.1101. Place hand tools within glove bag prior to removal. Attach HEPA filtered vacuum cleaner to vacuum port in glove bag. Attach wand from pump sprayer through port in glove bag.
  - 4. The Competent Person must smoke test glove bag and document test results in their logbook.
  - 5. Post all approaches to each work area with Asbestos Warning signs. Warning signs must be of size and type that are easily readable and are visible from all approaches to the work areas.
  - 6. Wet materials with water from pump sprayer prior to removal. Remove ACM utilizing hand tools.
  - 7. Following removal activities, decontaminate hand tools and place in pouch of glove bag. Twist pouch to seal off from remainder of glove bag and tape.
  - 8. Evacuate air from glove bag with HEPA vacuum. Twist glove bag and tape off. Cut top of glove bag above taped-off twist and drop directly into 6-mil disposal bag.
  - 9. Surface subject to final visual inspection prior to removal of glove bag.

### 3.17 FINAL CLEANING AND ENCAPSULATION

- A. Upon completion of gross removal of all ACM specified for removal, the Contractor must begin final cleaning of the effected work area. The final cleaning must include the following at a minimum:
  - 1. The Contractor must HEPA-vacuum and wet wipe all surfaces contained within the work area during the final cleaning.
  - 2. All tools or equipment that are not necessary for final cleaning must be decontaminated or bagged and removed from the work area enclosure.
  - 3. The Contractor must begin final cleaning procedures at the furthest and highest most points from the personnel decontamination unit and move towards the unit. The Contractor must ensure that all exposed building components and/or surfaces are thoroughly HEPA vacuumed and wet wiped.

4. The Contractor must HEPA vacuum and wet wipe any component specified to remain inside the work area enclosure.
  5. The Contractor must thoroughly wet wipe all polyethylene sheeting inside the work area enclosure.
- B. Once all surfaces and components within the work area have been thoroughly cleaned, the Contractor's Competent Person must perform a visual inspection of all surfaces and components within the work area enclosure.
1. The Contractor's Competent Person must sign off on the work area stating that all abatement has been completed for that portion of work and that the work area has met final visual inspection requirements as outlined in ASTM E1368.
- C. The Contractor's Competent Person must then request a final visual inspection to be performed by the Engineer.
1. The Engineer must visually inspect all surfaces and components in the work area for residual debris and or dust.
  2. Additional cleaning must be performed at the Contractor's expense if the Engineer identifies visual debris and/or dust during the visual inspection.
  3. Additional cleaning must be performed until the work area meets the Final Visual Inspection requirements outlined in ASTM E1368 and the CTDPH criteria of "no visible residue".
- D. Upon acceptance of the work area by the Engineer, the Contractor must apply an even layer of bridging or penetrating encapsulant to all surfaces contained within the work area.
1. The Engineer must verify the completeness of work area encapsulation.

### 3.18 WASTE PACKAGING AND REMOVAL PROCEDURE

- A. The Contractor must strictly adhere to the requirements of this section and EPA, DOT, and DPH requirements for ACM waste packaging and transporting waste from the work area enclosure to the disposal dumpster.
- B. Waste disposal bags and drums must be affixed with pre-printed OSHA warning labels, US Department of Transportation (DOT) labels, and NESHAP labels.
- C. Each container of ACM waste must be made adequately wet prior to sealing the container. Bags must be sealed immediately following additional wetting procedures. Bags of ACM waste must not be permitted to remain unsealed while in the work area enclosure.
- D. Each bag of ACM waste must be double bagged during waste load out procedures. The following waste load out procedure must be strictly adhered to:
1. Wet wipe inner bag or drum to remove all ACM contamination. Ensure the inner bag is sealed.
  2. Transport bag or drum to the equipment room located in the worker decontamination enclosure.
  3. One worker, equipped with personal protective equipment, must be inside the clean room of the worker decontamination enclosure.

4. The worker in the clean room of the decontamination enclosure must open a 6-mil disposal bag and hold it open inside the shower room where the inner bag containing the ACM waste must be placed.
5. The outer bag must be sealed with duct tape inside the shower room.
6. The double bagged or drummed waste must be removed from the decontamination enclosure and waste generator labels must be immediately affixed to the outer bag or drum.
7. Waste generator labels must be printed self-adhering labels and must contain the Owner's name, the site location address, and the Contractor's name.
8. The properly labeled waste must be transported directly to the lined waste container.
9. The waste container must be double-lined with 6-mil polyethylene sheeting.
10. OSHA warning signs must be secured to the waste container prior to any loading and unloading operations.
11. The waste container must be kept locked at all times other than loading and unloading.

### 3.19 DISPOSAL OF ASBESTOS AND ASBESTOS-CONTAMINATED WASTE

- A. All disposal of asbestos-containing and/or asbestos-contaminated material must be in compliance with requirements of the CTDEEP, CTDPH, and the EPA NESHAP regulations.
- B. Disposal approvals must be obtained from the CTDEEP before commencing asbestos removal if waste will be disposed of in Connecticut.
- C. Waste container storage locations must be pre-approved by the Owner and Engineer.
- D. A copy of approved disposal authorization must be provided to the Owner and Engineer and any required federal, state, or local agencies.
- E. Copies of all waste facility receipts will be retained by the Engineer as part of the project file. The receipts will be signed by the waste facility operator upon receipt, and the quantity of asbestos debris leaving the job site and arriving at the waste facility acknowledged.
- F. All asbestos debris must be transported in covered, sealed vans, boxes, or dumpsters, which are physically isolated from the driver by an airtight barrier. All vehicles must be properly licensed to meet DOT requirements.
- G. Friable ACM waste must be placed in double-lined enclosed waste containers equipped with a lockable hasp. Waste containers must be posted with OSHA warning signs during loading and unloading.
- H. All liquid waste generated during the work must be solidified. At no time will liquid waste be permitted to be stored on site. Liquid waste generated during this project must be solidified prior to the end of each work shift.
- I. Completed WSRs signed by the waste facility must be returned to the Owner and Engineer no later than 45 days from the time the waste was transported off-site. Completed WSRs that are not received by the Owner within 35 days must require the

Contractor to begin tracking the waste. The Contractor must notify the Owner of intentions on tracking the waste.

- J. The Contractor must take appropriate actions as outlined in Title 40 CFR, Part 61 NESHAP regulations when completed WSR are not forwarded to the Owner or Engineer within 45 days from the time the waste was transported off-site.

### 3.20 RE-OCCUPANCY AIR CLEARANCE SAMPLING

- A. After the visual inspection is completed and all surfaces in the abatement area have dried, the Engineer must conduct final re-occupancy air clearance sampling.
  - 1. Aggressive air monitoring will be used.
  - 2. Selection of location and of samples must be the responsibility of the Engineer.
  - 3. Air monitoring volumes must be sufficient to provide a detection limit of 0.002 f/cc (fibers per cubic centimeter of air) for Phase Contrast Microscopy (PCM) using NIOSH-approved method. For air clearance by Transmission Electron Microscopy (TEM), air monitoring volumes must be sufficient to provide a detection limit of 0.005 s/cc (structures per cubic centimeter of air) using the AHERA method.
- B. Areas that do not comply with the Standard for Cleaning for Initial Clearance must continue to be cleaned by, and at, the Contractor's expense until the specified Standard of Cleaning is achieved, as evidenced by results of air testing results, as previously specified.
  - 1. The above must include all Engineer-based costs.
- C. The Contractor must properly schedule abatement work and other site activities at appropriate times and locations to prevent cross-contamination and/or dust in areas where the Asbestos Project Monitor will conduct air sampling.
- D. After the pre-sealant, visual inspection has passed and all surfaces in the abatement area have dried, re-occupancy air clearance monitoring will be performed.
  - 1. The primary and secondary barriers, worker decontamination enclosure, and negative air filtration units must remain in place.
  - 2. At no time can tools, ladders, vacuums, or waste remain inside the work area enclosure during final air clearance sampling.

### 3.21 ENGINEER AIR SAMPLING RESPONSIBILITY

- A. Air sampling may be conducted by the Engineer to ascertain the integrity of the controls that protect the building from asbestos contamination. Independently, the Contractor must monitor air quality within the work area to ascertain the protection of employees, and to comply with OSHA regulations.
- B. The Engineer's project monitor may collect and analyze air samples during the following period:
  - 1. Abatement Period – If required, or retained for this service, the Engineer's project monitor must collect samples on a daily basis during the work period. A sufficient number of area samples must be collected outside of the work area, at the exhaust of the negative pressure system, and outside of the building to evaluate the degree of cleanliness or contamination of the building during removal. At the

discretion of the Asbestos Project Monitor, additional air samples may be collected inside the work area and decontamination enclosure system.

- C. The Engineer's project monitor must collect and analyze air samples during the following period:
1. Post-Abatement Period – If required, the Asbestos Project Monitor must conduct air sampling following the final cleanup phase of the project, once the "no visible residue" criterion, as established by the Asbestos Project Monitor, has been met and the work area has been encapsulated by the Contractor. A minimum of 5 air samples will be collected inside the work area utilizing aggressive methods to comply with the CTDPH Standards for Asbestos Abatement, section 19a-332a-12.
- D. Final re-occupancy air clearance sampling must be conducted by the Asbestos Project Monitor in accordance with the requirements of the CTDPH using the following methods:
1. TEM - For work areas containing greater than 500 linear feet or 1,500 square feet of ACM, post-abatement analysis of the samples to determine if re-occupancy clearance standards have been met must be conducted by TEM. A minimum of five (5) samples must be collected inside containment utilizing aggressive methods to comply with State of Connecticut DPH Standard for Asbestos Abatement section 19a-332a-12. An asbestos abatement project may be considered complete when the average concentration of asbestos fibers of 5 air samples collected within the work area and analyzed by the TEM method in Appendix A of 40 CFR Part 763 subpart E is less than 70.0 structures per square millimeter (s/mm<sup>2</sup>) of filter surface or is not statistically significantly different, as determined by the Z-test calculation found in Appendix A of 40 CFR Part 763, subpart E, from the average asbestos concentration of 5 air samples collected at the same time outside the work area and analyzed in the same manner, and the average asbestos concentration of the three field blanks described in Appendix A of 40 CFR Part 763, subpart E, is below the filter background level, as defined in Appendix A of 40 CFR Part 763 subpart E, of 70 s/mm<sup>2</sup>.
  2. PCM – For work areas containing less than 500 linear feet or 1,500 square feet of ACM, post abatement analysis of the samples to determine if re-occupancy clearance standards have been met must be conducted by PCM. A minimum of five (5) samples must be collected inside containment utilizing aggressive methods to comply with State of Connecticut DPH Standard for Asbestos Abatement section 19a-332a-12. The project may be considered complete when the results of samples collected in the work area and analyzed by phase contrast microscopy using the most current NIOSH method 7400, to show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantification for PCM (0.010 fibers per cubic centimeter of air).
- E. The Owner must be responsible for payment for the initial final clearance air sampling performance, only.
1. If the first set of samples fails to satisfy the re-occupancy criteria, the Contractor must be responsible for payment of all costs associated with the additional final clearance air sampling and analysis.
- F. The Asbestos Project Monitor may provide continual evaluation of the air quality of the building during removal, using their best professional judgment in respect to the CTDPH guideline of 0.010 fibers/cc, and the background air quality established during the pre-abatement period.

- G. Pre-abatement and abatement air samples must be collected as required to obtain a minimum volume of 1,200 liters. Samples must be analyzed by PCM NIOSH 7400 Method.

### 3.22 ENGINEER'S INSPECTION RESPONSIBILITIES

- A. The Engineer must conduct inspections throughout the progress of the abatement project. Inspections must be conducted to document the abatement work progress, as well as the procedures and practices employed by the abatement Contractor.
- B. The Engineer may perform the following inspections during the abatement activities:
  - 1. Pre-commencement Inspection. Pre-commencement inspections will be performed at the time requested by the Contractor. The Engineer must be informed 24 hours prior to the time the inspection is needed. If deficiencies are noted during the pre-commencement inspection, the Contractor must perform the necessary adjustments to obtain compliance.
  - 2. Work Area Inspections. Work area inspections must be conducted on a daily basis at the discretion of the Engineer. During the work inspections, the Engineer must observe the Contractor's removal procedures, verify barrier integrity, monitor negative air filtration devices, assess project progress, and if deficiencies are noted, inform the abatement Contractor of specific remedial activities.
- C. The Engineer must perform the following inspections during the abatement activities:
  - 1. Pre-sealant Inspection. Upon the request of the Contractor, the Engineer will conduct a pre-sealant inspection. The Engineer must be informed 24 hours prior to the time that the inspection is needed. The pre-sealant inspection must be conducted after completion of the initial cleaning procedures, but prior to encapsulation. The pre-sealant inspection must verify that all ACM and residual debris have been removed from the work area. If the Engineer identifies residual dust or debris during the pre-sealant inspection, the Contractor must comply with the request of the Engineer to render the area "dust free."
  - 2. Final Visual Inspection. Upon request of the abatement Contractor, the Engineer will conduct a final visual inspection. Following the removal of the inner layer of poly sheeting, but prior to final air clearance, the Engineer must conduct a final visual inspection inside the work area. If residual dust or debris is identified during the final inspection, the Contractor must comply with the request of the Engineer to render the area "dust free."

**Table 1 - LIST OF ASBESTOS-CONTAINING MATERIALS**

MATERIAL	LOCATION(S)	APPROXIMATE QUANTITY*	COMMENTS
Floor Tile <sup>(1)</sup> and Mastic	Center Section and North Wing- Lower and Upper Levels - Throughout	14,000 SF	Single Layer Tile on Mastic on Concrete Tile and Mastic Exists Under Gypsum Board Partition Walls
	Center Section and North Wing- Lower and Upper Levels - Throughout	6,000 SF	Areas are Under Carpeting or 12" Floor Tile on Concrete Tile and Mastic Exists Under Gypsum Board Partition Walls
	Center Section - Lower and Upper Levels - Areas to Remain <sup>(4)</sup> South Wing - Corridor <sup>(4)</sup>	900 SF	Single Layer Tile on Mastic on Concrete
	South Wing - Meeting Rooms A and B <sup>(4)</sup>	1,650 SF	Areas are Under Carpeting or 12" Floor Tile on Concrete
Cement Board Panels	Center Section - Upper Level - Rooms 7, 8, 9, 10, and 11	750 SF	Located Behind/Above Metal Radiators Along Exterior Walls
Sink Undercoating	Center Section - Lower Level - Room 16, Room 18, and North Wing - Lower Level - Kitchen	4 EA	On Stainless Steel Sink, Intact Removal
Vinyl Cove Base Adhesive	Center Section - Lower and Upper Levels - Throughout	1,100 SF	Most Areas are on CMU, Concrete, and/or Brick Walls. Various Colors of 6" Vinyl Cove Base Must be Removed and Disposed of Asbestos Contaminated Waste

**Table 1 - LIST OF ASBESTOS-CONTAINING MATERIALS**

MATERIAL	LOCATION(S)	APPROXIMATE QUANTITY*	COMMENTS
Vinyl Cove Base Adhesive	South Wing – Upper Level – Meeting Rooms A and B <sup>(4)</sup> Center Section – Upper Level – Storage Room	100 SF	Most Areas are on CMU, Concrete, and/or Brick Walls Blue 4” Vinyl Cove Base Must be Removed and Disposed of Asbestos Contaminated Waste
Linoleum, Backing, & Adhesive	Center Section – Lower Level – Custodial/Storage Room	100 SF	Located on Wooden Countertop/Cabinets Intact Removal
Interior Door Caulk <sup>(2)</sup>	North Wing – Upper Level – Corridor	20 LF	Associated with Metal Door Frame and Glazed Block Walls
Exterior Door Caulk <sup>(2)</sup>	Exterior - North Wing – Throughout	150 LF	Associated with Metal Door Frame on Concrete and Brick Façade
Exterior Window Caulk <sup>(2)</sup>	Exterior – Center Section – Lower Level and North Wing – Throughout	800 LF	Associated with Metal Frame Windows and Brick/Concrete Siding
Exterior Window Caulk <sup>(3)</sup>	Exterior – Center Section – Upper Level – Side A, Upper Level, and Lower Level – Side C	850 LF	Associated with Metal Frame Windows and Brick/Concrete Siding
Cement Board Panels <sup>(1)</sup>	North Wing – Exterior – Throughout and Center Section – Exterior – Rear of Building (East Side)	North Wing – 500 SF Center Section – 100 SF	North Wing – Located at Roof Level Soffits Center Section – Located at Rear of Building (East Side) Porticos



**Table 1 - LIST OF ASBESTOS-CONTAINING MATERIALS**

MATERIAL	LOCATION(S)	APPROXIMATE QUANTITY*	COMMENTS
Exterior Expansion Joint Caulk	Center Section – Sides A, C, and on Roof at Chimney	50 LF	Associated with Seams of Brick Siding and Brick Chimney
Roof Flashing Tar	Exterior – Center Section Roof	450 SF	Along Roof Perimeter, Parapet Walls, Around Chimney and All Other Roof Penetrations
Roof Flashing Caulk	Exterior – North Wing Roof	60 LF	Along Metal Flashing Where Roof Meets Center Section Building
Roof Flashing Tar		400 SF	Along Roof Perimeter, Parapet Walls, Around Chimney and All Other Roof Penetrations
Roof Tar and Paper Layers (Top)		5,200 SF	On Non-ACM Felt Paper (Middle) and Non-ACM Tar Paper Layers (Bottom) on Metal Deck

\* Approximate quantities included in this Table are provided to establish an order of magnitude for the amount of material that must be abated. Actual quantities may vary. It is the sole responsibility of the Contractor to visit the site, review the Contract Documents and determine the quantities of ACM to be removed when developing their Bid.

**Legend**

- ACM = Asbestos-Containing Materials
- CMU = Concrete Masonry Unit
- SF = Square Feet
- LF = Linear Feet
- EA = Each

ppm = parts per million

- <sup>(1)</sup> = Material previously tested by ATC
- <sup>(2)</sup> = Material contains PCBs at Concentrations < 50 ppm and > 1 ppm
- <sup>(3)</sup> = Material contains PCBs at Concentrations > 50 ppm
- <sup>(4)</sup> = Removal costs will be assessed as an add / alternate bid item

NOTE: Roofing materials may be removed/abated prior to building demolition or may be included in the overall waste stream if left in place.

Appendix A – Asbestos Laboratory Report

END OF SECTION

**Tighe&Bond**

**APPENDIX A**



# EMSL Analytical, Inc.

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**EMSL Order:** 242404613  
**Customer ID:** TIGH62  
**Customer PO:** 11-5178-0001  
**Project ID:**

**Attention:** James Webb  
Tighe & Bond  
213 Court Street  
Suite 1100  
Middletown, CT 06457  
**Project:** Notch Road Municipal Center 104 Notch Road Bolton, CT, Proj# 11-5178-0001

**Phone:** (860) 933-0622  
**Fax:** (860) 704-4775  
**Received Date:** 08/26/2024 9:00 AM  
**Analysis Date:** 09/03/2024  
**Collected Date:** 08/21/2024

## 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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-01 <small>242404613-0001</small>	Center Section - Lower Level - Boiler Room - Breaching Insulation, White	White Fibrous Homogeneous	65% Cellulose	35% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-02 <small>242404613-0002</small>	Center Section - Lower Level - Boiler Room - Breaching Insulation, White	White Fibrous Homogeneous	65% Cellulose	35% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-03 <small>242404613-0003</small>	Center Section - Lower Level - Boiler Room - Breaching Insulation, White	White Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-04 <small>242404613-0004</small>	Center Section - Lower Level - Boiler Room - Tank Insulation, Gray	Gray Fibrous Homogeneous	30% Cellulose 20% Min. Wool	50% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-05 <small>242404613-0005</small>	Center Section - Lower Level - Boiler Room - Tank Insulation, Gray	Gray Fibrous Homogeneous	20% Cellulose 20% Min. Wool	60% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-06 <small>242404613-0006</small>	Center Section - Lower Level - Boiler Room - Tank Insulation, Gray	Gray Fibrous Homogeneous	45% Cellulose 30% Min. Wool	25% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-07 <small>242404613-0007</small>	Center Section - Lower Level - Boiler Room - Flue Cement, Gray	Gray Non-Fibrous Homogeneous	3% Fibrous (Other)	97% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-08 <small>242404613-0008</small>	Center Section - Lower Level - Boiler Room - Flue Cement, Gray	Gray/White Non-Fibrous Homogeneous	3% Fibrous (Other)	97% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-09 <small>242404613-0009</small>	Center Section - Lower Level - Boiler Room - Fiberglass Pipe Sealant, White	White Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-10 <small>242404613-0010</small>	Center Section - Lower Level - Boiler Room - Fiberglass Pipe Sealant, White	White Non-Fibrous Homogeneous	10% Cellulose 5% Glass	85% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-11 <small>242404613-0011</small>	Center Section - Lower Level - Boiler Room - Fire Sealant Caulk, Red	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-12 <small>242404613-0012</small>	Center Section - Lower Level - Boiler Room - Fire Sealant Caulk, Red	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 09/03/2024 15:11:02



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**EMSL Order:** 242404613  
**Customer ID:** TIGH62  
**Customer PO:** 11-5178-0001  
**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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-13 <small>242404613-0013</small>	Center Section - Lower Level - Room 16 - Joint Compound, White	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-14 <small>242404613-0014</small>	North Wing - Lower Level - Storage - Joint Compound, White	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-15 <small>242404613-0015</small>	Center Section - Lower Level - Room 16 - Gypsum Board, Gray/Brown	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-16 <small>242404613-0016</small>	North Wing - Lower Level - Storage - Gypsum Board, Gray/Brown	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-17 <small>242404613-0017</small>	Center Section - Lower Level - Storage - Skim Coat Plaster, White	White Non-Fibrous Homogeneous		2% Quartz 98% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-18 <small>242404613-0018</small>	Center Section - Lower Level - Storage - Skim Coat Plaster, White	White Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-19 <small>242404613-0019</small>	Center Section - Lower Level - Storage - Skim Coat Plaster, White	White Non-Fibrous Homogeneous		3% Quartz 97% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-20 <small>242404613-0020</small>	Center Section - Lower Level - Storage - Base Coat Plaster, Gray	Gray Non-Fibrous Homogeneous		4% Quartz 96% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-21 <small>242404613-0021</small>	Center Section - Lower Level - Storage - Base Coat Plaster, Gray	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-22 <small>242404613-0022</small>	Center Section - Lower Level - Storage - Base Coat Plaster, Gray	Gray Non-Fibrous Homogeneous		5% Quartz 95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-23 <small>242404613-0023</small>	Center Section - Lower Level - Room 18 - 2'x4' Suspended Ceiling Tile, White/Gray	Gray/White Fibrous Homogeneous	45% Cellulose 15% Min. Wool	5% Perlite 35% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-24 <small>242404613-0024</small>	Center Section - Lower Level - Storage/Server - 2'x4' Suspended Ceiling Tile, White/Gray	Gray/White Fibrous Homogeneous	45% Cellulose 20% Min. Wool	5% Perlite 30% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-25 <small>242404613-0025</small>	Center Section - Lower Level - Storage/Server - 1'x1' Ceiling Tile, White/Tan	Brown/White Fibrous Homogeneous	75% Cellulose	25% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-26 <small>242404613-0026</small>	Center Section - Lower Level - Storage/Server - 1'x1' Ceiling Tile, White/Tan	Brown/White Fibrous Homogeneous	75% Cellulose	25% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-27 242404613-0027	North Wing - Lower Level - Church - 1'x1' Ceiling Tile, White/Brown	Brown/White Fibrous Homogeneous	75% Cellulose	25% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-28 242404613-0028	North Wing - Lower Level - Church - 1'x1' Ceiling Tile, White/Tan	Brown/White Fibrous Homogeneous	75% Cellulose	25% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-29 242404613-0029	North Wing - Lower Level - Church - Ceiling Tile Glue Daub, Dark Brown	Brown Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-30 242404613-0030	North Wing - Lower Level - Church - Ceiling Tile Glue Daub, Dark Brown	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-31 242404613-0031	Center Section - Upper Level - Men's Bathroom - Fiberboard Ceiling Panel, White/Brown	Brown/White Fibrous Homogeneous	85% Cellulose	15% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-32 242404613-0032	Center Section - Upper Level - Men's Bathroom - Fiberboard Ceiling Panel, White/Brown	Brown/White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-33 242404613-0033	Center Section - Upper Level - Room 8 - Wall Tar/Waterproofing, Black	Gray/Black Non-Fibrous Homogeneous	3% Cellulose <1% Fibrous (Other)	5% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-34 242404613-0034	Center Section - Upper Level - Room 8 - Wall Tar/Waterproofing, Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-35 242404613-0035	Center Section - Upper Level - Room 7 - Cement Board Panel, Gray	Gray Non-Fibrous Homogeneous		80% Non-fibrous (Other)	<b>20% Chrysotile</b>
24-0821-PLM-NY-36 242404613-0036	Center Section - Upper Level - Room 7 - Cement Board Panel, Gray				<b>Positive Stop (Not Analyzed)</b>
24-0821-PLM-NY-37 242404613-0037	Center Section - Lower Level - Corridor - Fire Door Insulation, White	Gray Non-Fibrous Homogeneous	5% Cellulose 5% Glass	90% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-38 242404613-0038	Center Section - Lower Level - Corridor - Fire Door Insulation, White	Gray/White Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-39 242404613-0039	Center Section - Lower Level - Room 18 - Sink Undercoating, Black	Black Non-Fibrous Homogeneous		96% Non-fibrous (Other)	<b>4% Chrysotile</b>

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-40 <i>242404613-0040</i>	Center Section - Lower Level - Room 18 - Sink Undercoating, Black				Positive Stop (Not Analyzed)
24-0821-PLM-NY-41 <i>242404613-0041</i>	North Wing - Lower Level - Storage Hallway - Sink Undercoating, Beige	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-42 <i>242404613-0042</i>	North Wing - Lower Level - Storage Hallway - Sink Undercoating, Beige	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-43 <i>242404613-0043</i>	Center Section - Lower level - Corridor - 6" Vinyl Cove Base, Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-44 <i>242404613-0044</i>	Center Section - Lower level - Room 16 - 6" Vinyl Cove Base, Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-45 <i>242404613-0045</i>	Center Section - Upper Level - Corridor - 6" Vinyl Cove Base, Brown	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-46 <i>242404613-0046</i>	Center Section - Upper Level - Corridor - 6" Vinyl Cove Base, Brown	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-47 <i>242404613-0047</i>	Center Section - Lower Level - Corridor - Vinyl Cove Base Adhesive, Brown	Brown Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-48 <i>242404613-0048</i>	Center Section - Upper Level - Corridor - Vinyl Cove Base Adhesive, Brown	Brown/Black Non-Fibrous Heterogeneous	<1% Fibrous (Other)	98% Non-fibrous (Other)	2% Chrysotile
<i>The sample group is not homogeneous</i>					
24-0821-PLM-NY-49 <i>242404613-0049</i>	North Wing - Lower level - Storage Hallway - 4" Vinyl Cove Base, White/Gray	White/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-50 <i>242404613-0050</i>	North Wing - Lower level - Storage Hallway - 4" Vinyl Cove Base, White/Gray	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-51 <i>242404613-0051</i>	North Wing - Lower level - Storage Hallway - Vinyl Cove Base Adhesive, Yellow	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-52 <i>242404613-0052</i>	North Wing - Lower level - Storage Hallway - Vinyl Cove Base Adhesive, Yellow	Gray/Yellow Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-53 <i>242404613-0053</i>	South Wing - Upper Level - Meeting Room B - 4" Vinyl Cove Base, Blue	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-54 <i>242404613-0054</i>	South Wing - Upper Level - Meeting Room B - 4" Vinyl Cove Base, Blue	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-55 <i>242404613-0055</i>	South Wing - Upper Level - Meeting Room B - Vinyl Cove Base Adhesive Tan /Black	Tan/Black Non-Fibrous Homogeneous		98% Non-fibrous (Other)	<b>2% Chrysotile</b>
24-0821-PLM-NY-56 <i>242404613-0056</i>	South Wing - Upper Level - Meeting Room B - Vinyl Cove Base Adhesive Tan /Black				<b>Positive Stop (Not Analyzed)</b>
24-0821-PLM-NY-57 <i>242404613-0057</i>	Center Section - Upper Level - Men's Bathroom - Ceramic Floor Tile Mortar, Gray	Gray Non-Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-58 <i>242404613-0058</i>	North Wing - Lower Level - Women's Bathroom - Ceramic Floor Tile Mortar, Gray	Gray Non-Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-59 <i>242404613-0059</i>	Center Section - Upper Level - Men's Bathroom - Ceramic Floor Tile Grout, Dark Gray	Gray Non-Fibrous Homogeneous	3% Cellulose	5% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-60 <i>242404613-0060</i>	North Wing - Lower Level - Women's Bathroom - Ceramic Floor Tile Grout, Dark Gray	Gray Non-Fibrous Homogeneous	6% Cellulose	4% Quartz 90% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-61 <i>242404613-0061</i>	Center Section - Lower Level - Custodial/Storage - Linoleum & Adhesive, Beige/Gray/Orange <i>This is a composite result of both vinyl and backing layer</i>	Brown/Gray/Tan Fibrous Homogeneous		75% Non-fibrous (Other)	<b>25% Chrysotile</b>
24-0821-PLM-NY-62 <i>242404613-0062</i>	Center Section - Lower Level - Custodial/Storage - Linoleum & Adhesive, Beige/Gray/Orange				<b>Positive Stop (Not Analyzed)</b>
24-0821-PLM-NY-63 <i>242404613-0063</i>	Center Section - Lower Level - Stair - Glazed Block Mortar/Grout, Gray	Gray Non-Fibrous Homogeneous		6% Quartz 94% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-64 <i>242404613-0064</i>	Center Section - Lower Level - Stair - Glazed Block Mortar/Grout, Gray	Gray Non-Fibrous Homogeneous		7% Quartz 93% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-65 <i>242404613-0065</i>	Center Section - Lower Level - Corridor - Concrete Ceiling, White/Gray	Gray/White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-66 242404613-0066	North Wing - Lower Level - Church - Concrete Wall, White/Gray	Gray/White Non-Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-67 242404613-0067	Center Section - Lower Level - Corridor - CMU Wall, White/Gray	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-68 242404613-0068	Center Section - Lower Level - Corridor - CMU Wall, White/Gray	Gray/White Non-Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-69 242404613-0069	Center Section - Lower Level - Corridor - CMU Wall Mortar, Gray	Gray Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-70 242404613-0070	Center Section - Lower Level - Corridor - CMU Wall Mortar, Gray	Gray Non-Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-71 242404613-0071	Center Section - Lower Level - Corridor - Floor Tile Mastic (Gray 9"), Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-72 242404613-0072	Center Section - Upper Level - Corridor - Floor Tile Mastic (Black 9"), Black	Black Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
<i>The sample group is not homogeneous</i>					
24-0821-PLM-NY-73 242404613-0073	North Wing - Upper Level - Room 13 - Floor Tile Mastic (Pink 9"), Black				Positive Stop (Not Analyzed)
24-0821-PLM-NY-74 242404613-0074	South Wing - Upper Level - Foyer - Floor Tile Mastic (Red 9"), Black				Positive Stop (Not Analyzed)
24-0821-PLM-NY-75 242404613-0075	Center Section - Lower Level - Room 16 - Floor Tile Mastic (Gray 12"), Black				Positive Stop (Not Analyzed)
24-0821-PLM-NY-76 242404613-0076	North Wing - Upper Level - Corridor - Interior Door Caulk, Black/Beige	Gray/Black Non-Fibrous Homogeneous		94% Non-fibrous (Other)	6% Chrysotile
24-0821-PLM-NY-77 242404613-0077	North Wing - Upper Level - Corridor - Interior Door Caulk, Black/Beige				Positive Stop (Not Analyzed)
24-0821-PLM-NY-78 242404613-0078	North Wing - Lower Level - Storage - Linoleum & Adhesive (Radiator Cover), Brown/Black	Brown/Black Fibrous Homogeneous	55% Cellulose	45% Non-fibrous (Other)	None Detected
<i>This is a composite result of both vinyl and backing layer</i>					

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-79  242404613-0079	North Wing - Lower Level - Storage - Linoleum & Adhesive (Radiator Cover), Brown/Black	Brown/Black Fibrous Homogeneous	50% Cellulose	50% Non-fibrous (Other)	None Detected
<i>This is a composite result of both vinyl and backing layer</i>					
24-0821-PLM-NY-80  242404613-0080	Center Section - Lower Level - Room 16 - Fire Cabinet Insulation, White	White Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-81  242404613-0081	Center Section - Lower Level - Room 16 - Fire Cabinet Insulation, White	White Fibrous Homogeneous	20% Cellulose	80% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-82  242404613-0082	North Wing - Lower Level - Kitchen - Chalkboard Adhesive, Dark Brown	Brown Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-83  242404613-0083	Center Section - Upper Level - Room 7 - Bulletin Board Adhesive, Dark Brown	Brown Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-84  242404613-0084	Exterior - Side A - Foundation Tar, Black	Black Non-Fibrous Homogeneous		5% Quartz 95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-85  242404613-0085	Exterior - Side A - Foundation Tar, Black	Brown/Black Non-Fibrous Homogeneous	3% Cellulose	5% Quartz 92% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-86  242404613-0086	Exterior - Side A - Expansion Joint Caulk, Gray	Gray Non-Fibrous Homogeneous		92% Non-fibrous (Other)	<b>8% Chrysotile</b>
24-0821-PLM-NY-87  242404613-0087	Exterior - Side C - Expansion Joint Caulk, Gray				<b>Positive Stop (Not Analyzed)</b>
24-0821-PLM-NY-88  242404613-0088	Exterior - Side A - Exterior Door Caulk, Dark Gray	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-89  242404613-0089	Exterior - Side A - Exterior Door Caulk, Dark Gray	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-90  242404613-0090	Exterior - Side C - Exterior Door Caulk, Gray	Gray Non-Fibrous Homogeneous		92% Non-fibrous (Other)	<b>8% Chrysotile</b>
24-0821-PLM-NY-91  242404613-0091	Exterior - Side C - Exterior Door Caulk, Gray				<b>Positive Stop (Not Analyzed)</b>
24-0821-PLM-NY-92  242404613-0092	Exterior - Side C - Brick Siding, Red	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-93  242404613-0093	Exterior - Side C - Brick Siding, Red	Red Non-Fibrous Homogeneous		5% Quartz 95% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-94  242404613-0094	Exterior - Side C - Brick Mortar Siding, Gray	Gray Non-Fibrous Homogeneous		6% Quartz 94% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-95  242404613-0095	Exterior - Side C - Brick Mortar Siding, Gray	Gray Non-Fibrous Homogeneous		8% Quartz 92% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-96 242404613-0096	Exterior - Center Section - Roof - Tar & Gravel, Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-97 242404613-0097	Exterior - Center Section - Roof - Tar & Gravel, Black	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-98 242404613-0098	Exterior - Center Section - Roof - Tar & Paper Layers (Top), Black	Black Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-99 242404613-0099	Exterior - Center Section - Roof - Tar & Paper Layers (Top), Black	Black Fibrous Homogeneous	15% Glass	3% Quartz 82% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-100 242404613-0100	Exterior - Center Section - Roof - Insulation Layer (Middle), Brown	Brown/Black Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-101 242404613-0101	Exterior - Center Section - Roof - Insulation Layer (Middle), Brown	Black Fibrous Homogeneous	65% Cellulose	35% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-102 242404613-0102	Exterior - Center Section - Roof - Tar & Paper Layers (Bottom), Black	Black Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-103 242404613-0103	Exterior - Center Section - Roof - Tar & Paper Layers (Bottom), Black	Black Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-104 242404613-0104	Exterior - Center Section - Roof - Membrane Layer & Adhesive, Black	Black Fibrous Homogeneous	35% Synthetic	65% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-105 242404613-0105	Exterior - Center Section - Roof - Membrane Layer & Adhesive, Black	Black Fibrous Homogeneous	30% Synthetic	70% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-106 242404613-0106	Exterior - Center Section - Roof - Parapet Caulk, Gray/Silver	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-107 242404613-0107	Exterior - Center Section - Roof - Parapet Caulk, Gray/Silver	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-108 242404613-0108	Exterior - Center Section - Roof - Flashing Tar & Paint, Black/Gray/Silver	Black Non-Fibrous Homogeneous	5% Cellulose 5% Fibrous (Other)	85% Non-fibrous (Other)	5% Chrysotile
24-0821-PLM-NY-109 242404613-0109	Exterior - Center Section - Roof - Flashing Tar & Paint, Black/Gray/Silver				Positive Stop (Not Analyzed)
24-0821-PLM-NY-110 242404613-0110	Exterior - North Wing - Roof - Flashing Caulk, Light Gray	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 09/03/2024 15:11:02



# EMSL Analytical, Inc.

165 Gracey Avenue Meriden, CT 06451  
Tel/Fax: (203) 284-5948 / (203) 284-5978  
<http://www.EMSL.com> / [meridenlab@emsl.com](mailto:meridenlab@emsl.com)

**EMSL Order:** 242404613  
**Customer ID:** TIGH62  
**Customer PO:** 11-5178-0001  
**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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
24-0821-PLM-NY-111 <i>242404613-0111</i> <i>The sample group is not homogeneous</i>	Exterior - North Wing - Roof - Flashing Caulk, Light Gray	Black Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
24-0821-PLM-NY-112 <i>242404613-0112</i>	Exterior - North Wing - Roof - Flashing Tar, Black/Gray	Gray/Black Non-Fibrous Homogeneous		85% Non-fibrous (Other)	15% Chrysotile
24-0821-PLM-NY-113 <i>242404613-0113</i>	Exterior - North Wing - Roof - Flashing Tar, Black/Gray				Positive Stop (Not Analyzed)
24-0821-PLM-NY-114 <i>242404613-0114</i>	Exterior - North Wing - Roof - Tar & Paper Layers (Top), Black	Black Non-Fibrous Homogeneous	5% Glass	90% Non-fibrous (Other)	5% Chrysotile
24-0821-PLM-NY-115 <i>242404613-0115</i>	Exterior - North Wing - Roof - Tar & Paper Layers (Top), Black				Positive Stop (Not Analyzed)
24-0821-PLM-NY-116 <i>242404613-0116</i>	Exterior - North Wing - Roof - Felt Paper Layers (Middle), Black	Black Fibrous Homogeneous	25% Glass	75% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-117 <i>242404613-0117</i>	Exterior - North Wing - Roof - Felt Paper Layers (Middle), Black	Black Fibrous Homogeneous	25% Glass	75% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-118 <i>242404613-0118</i>	Exterior - North Wing - Roof - Tar & Paper Layers (Bottom), Black	Black Non-Fibrous Homogeneous	10% Glass	90% Non-fibrous (Other)	None Detected
24-0821-PLM-NY-119 <i>242404613-0119</i>	Exterior - North Wing - Roof - Tar & Paper Layers (Bottom), Black	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected

Analyst(s)

Hailey Rangel (27)  
Leslie Tetric (26)  
Shannon Halloran (27)  
Sara Poppa (26)

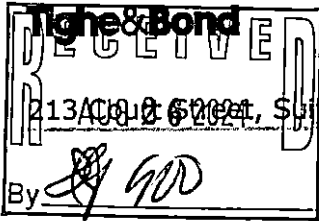
Danny Sandhu, Asbestos Laboratory Manager  
or Other Approved Signatory

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. Meriden, CT NVLAP Lab Code 200700-0.

Initial report from: 09/03/2024 15:11:02

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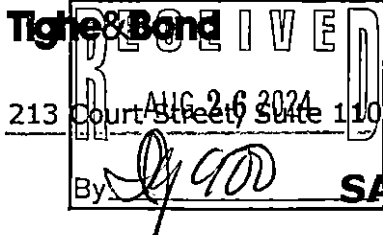
213A North Street, Suite 1100, Middletown, CT 06457

Phone 860-704-4760

**SAMPLE LOG FOR ASBESTOS BULKS**Sheet 1 of 7Project Name: Notch Road Municipal Center Project No. 11-5178-0001Building: 104 Notch Road, Bolton, CT Project Manager: James Webb

Sample ID	HA #	Material Description	Color	Sample Location
24-0821-PLM-NY-01	01	Breaching Insulation	White	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-02	01	Breaching Insulation	White	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-03	01	Breaching Insulation	White	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-04	02	Tank Insulation	Gray	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-05	02	Tank Insulation	Gray	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-06	02	Tank Insulation	Gray	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-07	03	Flue Cement	Gray	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-08	03	Flue Cement	Gray	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-09	04	Fiberglass Pipe Sealant	White	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-10	04	Fiberglass Pipe Sealant	White	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-11	05	Fire Sealant Caulk	Red	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-12	05	Fire Sealant Caulk	Red	Center Section - Lower Level - Boiler Room
24-0821-PLM-NY-13	06	Joint Compound	White	Center Section - Lower Level - Room 16
24-0821-PLM-NY-14	06	Joint Compound	White	North Wing - Lower Level - Storage
24-0821-PLM-NY-15	07	Gypsum Board	Gray/Brown	Center Section - Lower Level - Room 16
24-0821-PLM-NY-16	07	Gypsum Board	Gray/Brown	North Wing - Lower Level - Storage
24-0821-PLM-NY-17	08	Skim Coat Plaster	White	Center Section - Lower Level - Storage
24-0821-PLM-NY-18	08	Skim Coat Plaster	White	Center Section - Lower Level - Storage
24-0821-PLM-NY-19	08	Skim Coat Plaster	White	Center Section - Lower Level - Storage
24-0821-PLM-NY-20	09	Base Coat Plaster	Gray	Center Section - Lower Level - Storage

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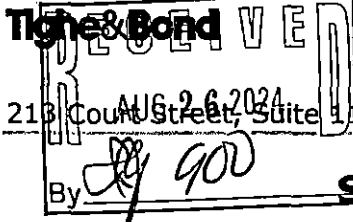
Phone 860-704-4760

By

**SAMPLE LOG FOR ASBESTOS BULKS**Sheet 2 of 7Project Name: Notch Road Municipal Center Project No. 11-5178-0001Building: 104 Notch Road, Bolton, CT Project Manager: James Webb

Sample ID	HA #	Material Description	Color	Sample Location
24-0821-PLM-NY-21	09	Base Coat Plaster	Gray	Center Section - Lower Level - Storage
24-0821-PLM-NY-22	09	Base Coat Plaster	Gray	Center Section - Lower Level - Storage
24-0821-PLM-NY-23	10	2'x4' Suspended Ceiling Tile	White/Gray	Center Section - Lower Level - Room 18
24-0821-PLM-NY-24	10	2'x4' Suspended Ceiling Tile	White/Gray	Center Section - Lower Level - Storage/Server
24-0821-PLM-NY-25	11	1'x1' Ceiling Tile	White/Tan	Center Section - Lower Level - Storage/Server
24-0821-PLM-NY-26	11	1'x1' Ceiling Tile	White/Tan	Center Section - Lower Level - Storage/Server
24-0821-PLM-NY-27	12	1'x1' Ceiling Tile	White/Brown	North Wing - Lower Level - Church
24-0821-PLM-NY-28	12	1'x1' Ceiling Tile	White/Tan	North Wing - Lower Level - Church
24-0821-PLM-NY-29	13	Ceiling Tile Glue Daub	Dark Brown	North Wing - Lower Level - Church
24-0821-PLM-NY-30	13	Ceiling Tile Glue Daub	Dark Brown	North Wing - Lower Level - Church
24-0821-PLM-NY-31	14	Fiberboard Ceiling Panel	White/Brown	Center Section - Upper Level - Men's Bathroom
24-0821-PLM-NY-32	14	Fiberboard Ceiling Panel	White/Brown	Center Section - Upper Level - Men's Bathroom
24-0821-PLM-NY-33	15	Wall Tar/Waterproofing	Black	Center Section - Upper Level - Room 8
24-0821-PLM-NY-34	15	Wall Tar/Waterproofing	Black	Center Section - Upper Level - Room 8
24-0821-PLM-NY-35	16	Cement Board Panel	Gray	Center Section - Upper Level - Room 7
24-0821-PLM-NY-36	16	Cement Board Panel	Gray	Center Section - Upper Level - Room 7
24-0821-PLM-NY-37	17	Fire Door Insulation	White	Center Section - Lower Level - Corridor
24-0821-PLM-NY-38	17	Fire Door Insulation	White	Center Section - Lower Level - Corridor
24-0821-PLM-NY-39	18	Sink Undercoating	Black	Center Section - Lower Level - Room 18
24-0821-PLM-NY-40	18	Sink Undercoating	Black	Center Section - Lower Level - Room 18

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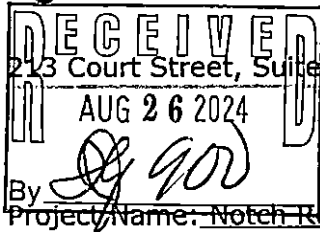
Phone 860-704-4760

By

**SAMPLE LOG FOR ASBESTOS BULKS**Sheet 3 of 7Project Name: Notch Road Municipal Center Project No. 11-5178-0001Building: 104 Notch Road, Bolton, CT Project Manager: James Webb

Sample ID	HA #	Material Description	Color	Sample Location
24-0821-PLM-NY-41	19	Sink Undercoating	Beige	North Wing - Lower Level - Storage Hallway
24-0821-PLM-NY-42	19	Sink Undercoating	Beige	North Wing - Lower Level - Storage Hallway
24-0821-PLM-NY-43	20	6" Vinyl Cove Base	Black	Center Section - Lower Level - Corridor
24-0821-PLM-NY-44	20	6" Vinyl Cove Base	Black	Center Section - Lower Level - Room 16
24-0821-PLM-NY-45	21	6" Vinyl Cove Base	Brown	Center Section - Upper Level - Corridor
24-0821-PLM-NY-46	21	6" Vinyl Cove Base	Brown	Center Section - Upper Level - Corridor
24-0821-PLM-NY-47	22	Vinyl Cove Base Adhesive	Brown	Center Section - Lower Level - Corridor
24-0821-PLM-NY-48	22	Vinyl Cove Base Adhesive	Brown	Center Section - Upper Level - Corridor
24-0821-PLM-NY-49	23	4" Vinyl Cove Base	White/Gray	North Wing - Lower Level - Storage Hallway
24-0821-PLM-NY-50	23	4" Vinyl Cove Base	White/Gray	North Wing - Lower Level - Storage Hallway
24-0821-PLM-NY-51	24	Vinyl Cove Base Adhesive	Yellow	North Wing - Lower Level - Storage Hallway
24-0821-PLM-NY-52	24	Vinyl Cove Base Adhesive	Yellow	North Wing - Lower Level - Storage Hallway
24-0821-PLM-NY-53	25	4" Vinyl Cove Base	Blue	South Wing - Upper Level - Meeting Room B
24-0821-PLM-NY-54	25	4" Vinyl Cove Base	Blue	South Wing - Upper Level - Meeting Room B
24-0821-PLM-NY-55	26	Vinyl Cove Base Adhesive	Tan/Black	South Wing - Upper Level - Meeting Room B
24-0821-PLM-NY-56	26	Vinyl Cove Base Adhesive	Tan/Black	South Wing - Upper Level - Meeting Room B
24-0821-PLM-NY-57	27	Ceramic Floor Tile Mortar	Gray	Center Section - Upper Level - Men's Bathroom
24-0821-PLM-NY-58	27	Ceramic Floor Tile Mortar	Gray	North Wing - Lower Level - Women's Bathroom
24-0821-PLM-NY-59	28	Ceramic Floor Tile Grout	Dark Gray	Center Section - Upper Level - Men's Bathroom
24-0821-PLM-NY-60	28	Ceramic Floor Tile Grout	Dark Gray	North Wing - Lower Level - Women's Bathroom

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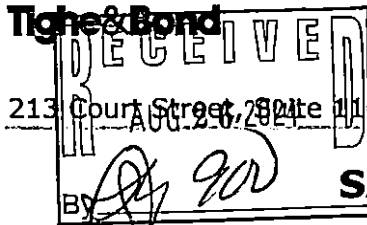
Phone 860-704-4760

**SAMPLE LOG FOR ASBESTOS BULKS**Sheet 4 of 7Project Name: Notch Road Municipal Center Project No. 11-5178-0001Building: 104 Notch Road, Bolton, CT Project Manager: James Webb

Sample ID	HA #	Material Description	Color	Sample Location
24-0821-PLM-NY-61	29	Linoleum & Adhesive	Beige/Gray/ Orange	Center Section - Lower Level - Custodial/Storage
24-0821-PLM-NY-62	29	Linoleum & Adhesive	Beige/Gray/ Orange	Center Section - Lower Level - Custodial/Storage
24-0821-PLM-NY-63	30	Glazed Block Mortar/Grout	Gray	Center Section - Lower Level - Stair
24-0821-PLM-NY-64	30	Glazed Block Mortar/Grout	Gray	Center Section - Lower Level - Stair
24-0821-PLM-NY-65	31	Concrete Ceiling	White/Gray	Center Section - Lower Level - Corridor
24-0821-PLM-NY-66	31	Concrete Wall	White/Gray	North Wing - Lower Level - Church
24-0821-PLM-NY-67	32	CMU Wall	White/Gray	Center Section - Lower Level - Corridor
24-0821-PLM-NY-68	32	CMU Wall	White/Gray	Center Section - Lower Level - Corridor
24-0821-PLM-NY-69	33	CMU Wall Mortar	Gray	Center Section - Lower Level - Corridor
24-0821-PLM-NY-70	33	CMU Wall Mortar	Gray	Center Section - Lower Level - Corridor
24-0821-PLM-NY-71	34	Floor Tile Mastic (Gray 9")	Black	Center Section - Lower Level - Corridor
24-0821-PLM-NY-72	34	Floor Tile Mastic (Black 9")	Black	Center Section - Upper Level - Corridor
24-0821-PLM-NY-73	34	Floor Tile Mastic (Pink 9")	Black	North Wing - Upper Level - Room 13
24-0821-PLM-NY-74	34	Floor Tile Mastic (Red 9")	Black	South Wing - Upper Level - Foyer
24-0821-PLM-NY-75	34	Floor Tile Mastic (Gray 12")	Black	Center Section - Lower Level - Room 16
24-0821-PLM-NY-76	35	Interior Door Caulk	Black/Beige	North Wing - Upper Level - Corridor
24-0821-PLM-NY-77	35	Interior Door Caulk	Black/Beige	North Wing - Upper Level - Corridor
24-0821-PLM-NY-78	36	Linoleum & Adhesive (Radiator Cover)	Brown/Black	North Wing - Lower Level - Storage
24-0821-PLM-NY-79	36	Linoleum & Adhesive (Radiator Cover)	Brown/Black	North Wing - Lower Level - Storage
24-0821-PLM-NY-80	37	Fire Cabinet Insulation	White	Center Section - Lower Level - Room 16



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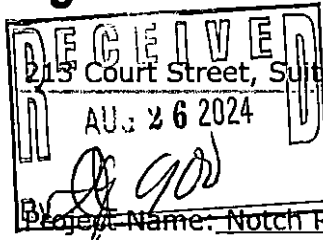
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Phone 860-704-4760

**SAMPLE LOG FOR ASBESTOS BULK**Sheet 5 of 7Project Name: Notch Road Municipal Center Project No. 11-5178-0001Building: 104 Notch Road, Bolton, CT Project Manager: James Webb

Sample ID	HA #	Material Description	Color	Sample Location
24-0821-PLM-NY-81	37	Fire Cabinet Insulation	White	Center Section - Lower Level - Room 16
24-0821-PLM-NY-82	38	Chalkboard Adhesive	Dark Brown	North Wing - Lower Level - Kitchen
24-0821-PLM-NY-83	38	Bulletin Board Adhesive	Dark Brown	Center Section - Upper Level - Room 7
24-0821-PLM-NY-84	39	Foundation Tar	Black	Exterior - Side A
24-0821-PLM-NY-85	39	Foundation Tar	Black	Exterior - Side A
24-0821-PLM-NY-86	40	Expansion Joint Caulk	Gray	Exterior - Side A
24-0821-PLM-NY-87	40	Expansion Joint Caulk	Gray	Exterior - Side C
24-0821-PLM-NY-88	41	Exterior Door Caulk	Dark Gray	Exterior - Side A
24-0821-PLM-NY-89	41	Exterior Door Caulk	Dark Gray	Exterior - Side A
24-0821-PLM-NY-90	42	Exterior Door Caulk	Gray	Exterior - Side C
24-0821-PLM-NY-91	42	Exterior Door Caulk	Gray	Exterior - Side C
24-0821-PLM-NY-92	43	Brick Siding	Red	Exterior - Side C
24-0821-PLM-NY-93	43	Brick Siding	Red	Exterior - Side C
24-0821-PLM-NY-94	44	Brick Mortar Siding	Gray	Exterior - Side C
24-0821-PLM-NY-95	44	Brick Mortar Siding	Gray	Exterior - Side C
24-0821-PLM-NY-96	45	Tar & Gravel	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-97	45	Tar & Gravel	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-98	46	Tar & Paper Layers (Top)	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-99	46	Tar & Paper Layers (Top)	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-100	47	Insulation Layer (Middle)	Brown	Exterior - Center Section - Roof

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Phone 860-704-4760

**SAMPLE LOG FOR ASBESTOS BULKs**Sheet 6 of 7Project Name: Notch Road Municipal Center Project No. 11-5178-0001Building: 104 Notch Road, Bolton, CT Project Manager: James Webb

Sample ID	HA #	Material Description	Color	Sample Location
24-0821-PLM-NY-101	47	Insulation Layer (Middle)	Brown	Exterior - Center Section - Roof
24-0821-PLM-NY-102	48	Tar & Paper Layers (Bottom)	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-103	48	Tar & Paper Layers (Bottom)	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-104	49	Membrane Layer & Adhesive	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-105	49	Membrane Layer & Adhesive	Black	Exterior - Center Section - Roof
24-0821-PLM-NY-106	50	Parapet Caulk	Gray/Silver	Exterior - Center Section - Roof
24-0821-PLM-NY-107	50	Parapet Caulk	Gray/Silver	Exterior - Center Section - Roof
24-0821-PLM-NY-108	51	Flashing Tar & Paint	Black/Gray/Silver	Exterior - Center Section - Roof
24-0821-PLM-NY-109	51	Flashing Tar & Paint	Black/Gray/Silver	Exterior - Center Section - Roof
24-0821-PLM-NY-110	52	Flashing Caulk	Light Gray	Exterior - North Wing - Roof
24-0821-PLM-NY-111	52	Flashing Caulk	Light Gray	Exterior - North Wing - Roof
24-0821-PLM-NY-112	53	Flashing Tar	Black/Gray	Exterior - North Wing - Roof
24-0821-PLM-NY-113	53	Flashing Tar	Black/Gray	Exterior - North Wing - Roof
24-0821-PLM-NY-114	54	Tar & Paper Layers (Top)	Black	Exterior - North Wing - Roof
24-0821-PLM-NY-115	54	Tar & Paper Layers (Top)	Black	Exterior - North Wing - Roof
24-0821-PLM-NY-116	55	Felt Paper Layers (Middle)	Black	Exterior - North Wing - Roof
24-0821-PLM-NY-117	55	Felt Paper Layers (Middle)	Black	Exterior - North Wing - Roof
24-0821-PLM-NY-118	56	Tar & Paper Layers (Bottom)	Black	Exterior - North Wing - Roof
24-0821-PLM-NY-119	56	Tar & Paper Layers (Bottom)	Black	Exterior - North Wing - Roof

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**SAMPLE LOG FOR ASBESTOS BULK**

Sheet 7 of 7

Project Name: Notch Road Municipal Center Project No. 11-5178-0001

Building: 104 Notch Road, Bolton, CT Project Manager: James Webb

**TOTAL # OF SAMPLES:** 119 State sample collected in: CT

Customer ID: TIGH62

Analysis Method:  PLM  TEM-NOB  Point CT - 400  Other  Stop Positive - Homogeneous Areas (HA#)

Turnaround Time (check one):  3-hr  6-hr  24-hr  48-hr  72-hr  96-hr  1-week  2-week

Please call the office if analyses will be late at: \_\_\_\_\_

Email Results to: JTWebb@tighebond.com **Do Not Mail Hard Copy Report**

Special Instructions: Do not layer samples unless indicated. Do Not Point Count.

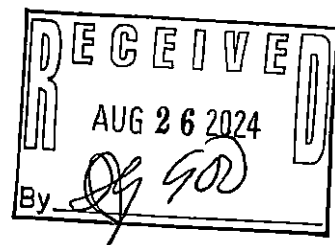
Samples collected by: Nathan Yergeau Date: 08/21/2024 Time: 1600

Samples Relinquished by: *REM* Date: 08/23/2024 Time: 1205

Samples Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Shipped To:  EMSL State CT  Other \_\_\_\_\_

Method of Shipment:  Overnight (Check one: Fed Ex / UPS)  Other \_\_\_\_\_



SECTION 02830  
LEAD PAINT MANAGEMENT

**PART 1 GENERAL**

**1.1 SUMMARY OF WORK**

- A. Work in this Section includes requirements for worker protection and waste disposal related to the work involving surfaces containing lead at the Notch Road Municipal Center (the "Site").
- B. The procedures referenced herein shall be utilized during required renovation or demolition work specified elsewhere in the Specifications that might impact identified lead-containing paint (identified as detectable concentrations of lead) and/or lead-based paint (identified as containing greater than or equal to  $\geq$  0.50% lead by weight). Lead-based paint and/or lead-containing paint and associated building components are noted in Table 1 located at the end of this Specification.
- C. Renovation and/or demolition work impacting lead-containing paint may result in dust and debris exposing workers to levels of lead above the Occupational Safety and Health Administration's (OSHA) Action Level.
- D. Worker protection, training, and engineering controls referenced herein shall be strictly adhered to, until completion of exposure assessment with results indicating exposures below the OSHA Action Level.
- E. Construction activities disturbing surfaces with lead-containing or lead-based paint that are likely to be employed, such as demolition, sanding, grinding, welding, cutting, and burning have been known to expose workers to levels of lead in excess of the OSHA Permissible Exposure Limit (PEL).
- F. Any construction activities including cutting, grinding, abrading, etc. which impact the lead-containing and/or lead-based painted surfaces must follow the requirements found in this Section.

**1.2 RELATED INFORMATION**

- A. Related Sections
  - 1. Section 02222, Building Demolition
  - 2. Section 02820, Asbestos Abatement
  - 3. Section 02840, PCB-Contaminated Building Materials Abatement
  - 4. Section 02850, Hazardous Materials and Universal Waste Management

**1.3 DEFINITIONS**

- A. The following definitions relating to lead-containing or lead-based paint as used in this Section are offered:
  - 1. **ACTION LEVEL (AL):** The allowable employee exposure, without regard to use of respiratory protection, to an airborne concentration of lead over an eight (8) hour time weighted average (TWA), as defined by OSHA. The current action level is thirty micrograms per cubic meter of air (30  $\mu\text{g}/\text{m}^3$ ).

2. **AREA MONITORING:** The sampling of lead concentrations, which is representative of the airborne lead concentrations that may reach the breathing zone of personnel potentially exposed to lead.
3. **BIOLOGICAL MONITORING:** The analysis of a person's blood and/or urine, to determine the level of lead concentration in the body.
4. **CHANGE ROOM:** An area provided with separate facilities for clean protective work clothing and equipment and for street clothes, which prevents cross-contamination.
5. **COMPETENT PERSON:** A person employed by the Contractor who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions, and who has authorization to take prompt corrective measures to eliminate them as defined by OSHA.
6. **ENGINEER -** The third-party Engineering/Environmental consultant for the project.
7. **EXPOSURE ASSESSMENT:** An assessment conducted by an employer to determine if any employee may be exposed to lead at or above the action level.
8. **HIGH EFFICIENCY PARTICULATE AIR (HEPA):** A type of filtering system capable of filtering out particles of 0.3 microns diameter from a body of air at 99.97% efficiency or greater.
9. **LEAD:** Refers to metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.
10. **LEAD-CONTAINING PAINT:** Refers to paints, glazes, and other surface coverings containing detectable levels of lead.
11. **LEAD WORK AREA:** An area enclosed in a manner to prevent the spread of lead dust, paint chips, or debris resulting from lead-containing paint disturbance.
12. **LEAD-BASED PAINT:** Refers to paints, glazes, and other surface coverings containing a toxic level of lead.
13. **PERMISSIBLE EXPOSURE LIMIT (PEL):** The maximum allowable limit of exposure to an airborne concentration of lead over an eight (8) hour time-weighted average (TWA), as defined by OSHA. The current PEL is fifty micrograms per cubic meter of air (50  $\mu\text{g}/\text{m}^3$ ). Extended workdays lower the PEL by the formula: PEL equals 400 divided by the number of hours of work.
14. **PERSONAL MONITORING:** Sampling of lead concentrations within the breathing zone of an employee to determine the 8-hour time weighted average concentration in accordance with Title 29 CFR, Part 1926.62 and Title 29 CFR, Part 1910.1025. Samples shall be representative of the employee's work tasks. Breathing zone shall be considered an area within a sphere with a radius of 18 inches and centered at the nose or mouth of an employee.
15. **RESOURCE CONSERVATION RECOVERY ACT (RCRA):** RCRA establishes regulatory levels of hazardous chemicals. There are eight (8) heavy metals of concern for disposal: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Six (6) of the metals are typically found in paints, excluding selenium and silver.
16. **TOXIC LEVEL OF LEAD:** A level of lead, when present in dried paint or plaster, that contains more than 0.50% lead by dry weight as measured by atomic absorption spectrophotometry (AAS) or 1.0  $\text{mg}/\text{cm}^2$  as measured by on-site testing

utilizing an x-ray fluorescence analyzer. (Term is specific to State of CT regulations and HUD guidelines only)

17. TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP): The U.S. Environmental Protection Agency (USEPA) required sample preparation and analysis for determining the hazard characteristics of a waste material.

#### 1.4 REGULATIONS AND STANDARDS

- A. The following regulations, standards, and ordinances of federal, state, and local agencies are applicable and made a part of this specification by reference:
  1. American National Standards Institute (ANSI) ANSI 288.2 - 1980 Respiratory Protection
  2. Code of Federal Regulation (CFR)
    - a. Title 29 CFR, Part 1910.134 - Respiratory Protection
    - b. Title 29 CFR, Part 1910.1025 - Lead
    - c. Title 29 CFR, Part 1926.62 - Lead in Construction Interim Final Rule
    - d. Title 29 CFR, Part 1926.59 - Hazard Communication in Construction
    - e. Title 40 CFR, Part 263 - Transporters of Hazardous Waste
    - f. Title 40 CFR, Part 268 - Lead Disposal Restrictions
  3. State of Connecticut Department of Energy and Environmental Protection (CTDEEP)
    - a. Guidance for the management and disposal of lead-contaminated materials generated in the lead abatement renovation and demolition industries.
  4. Underwriters Laboratories, Inc. (UL)
    - a. UL586 - 1990 High Efficiency Particulate Air Filter Units

#### 1.5 QUALITY ASSURANCE

- A. Hazard Communication Program
  1. The Contractor shall establish and implement a Hazard Communication Program as required by Title 29 CFR, Part 1926.59.
- B. Compliance Plan (Site Specific)
  1. The Contractor shall establish a written compliance plan, which is specific to the project site, to include the following:
    - a. A description of work activity involving lead including equipment used, material included, controls in place, crew size, employee job responsibilities, operating procedures, and maintenance practices.
    - b. Methods of engineering controls to be used to control lead exposure.
    - c. The proposed technology the Contractor will implement in meeting the OSHA PEL.
    - d. Air monitoring data documenting the source of lead emissions.

- e. A detailed schedule for implementing the program, including documentation of appropriate supply of equipment, etc.
- f. Proposed work practice which establishes proper protective work clothing, housekeeping methods, hygiene facilities, and practices.
- g. Worker rotation schedule, if proposed, to reduce TWA.
- h. A description of methods for informing workers of potential lead exposure.

C. Medical Examinations

- 1. Before exposure to lead contaminated dust, provide workers with a comprehensive medical examination as required by Title 29 CFR, Part 1910.1025 and Title 29 CFR, Part 1926.62.
- 2. The examination shall not be required if adequate records show that employees have been examined as required by Title 29 CFR Part 1926.62 within the last year.
- 3. Medical examination shall include, at a minimum, approval to wear respiratory protection and biological monitoring.

D. Training

- 1. The Contractor shall ensure that workers are trained to perform lead-containing or lead-based paint disturbing activities and disposal operations prior to the start of work in accordance with Title 29 CFR, Part 1926.62.

E. Respiratory Protection Program

- 1. The Contractor shall furnish each employee required to wear a negative pressure respirator with a respirator fit test at the time of initial fitting and at least once every 12 months thereafter as required by Title 29 CFR, Part 1926.62.
- 2. The Contractor shall establish a Respiratory Protection Program in accordance with ANSI Z88.2, Title 29 CFR, Part 1910.134, and Title 29 CFR, Part 1926.62.

## 1.6 SUBMITTALS

A. The Contractor shall submit to the Engineer the following submittals prior to start of work:

- 1. Copies of all notifications, permits, applications, licenses, and like documents required by federal, state, and local regulations obtained or submitted in proper fashion.
- 2. Copies of medical records for each employee to be used on the project, including copies of each workers' initial blood lead level and zinc protoporphyrin level.
- 3. Record of successful respirator fit testing performed by a qualified individual within the previous year for each employee to be used on this project with the employee's name and social security number with each record.
- 4. Proposed respiratory protection program for employees throughout all phases of the job, including make, model, and NIOSH approval numbers of respirators to be used.
- 5. Written description, for the Engineer's review and acceptance, of all proposed procedures, methods, or equipment to be utilized including those that differ from the Contract Specifications. Include manufacturers' specifications on any equipment not specified for use by this Section; in all instances, the Contractor must comply with all applicable federal, state, and local regulations.

6. List of all supervisors and workers intended to be assigned to the project and current certificates of training.
  7. The name and address of Contractor's blood lead testing lab, OSHA-CDC listing, and Certification in the State of Connecticut.
  8. The name and address of Contractor's personal air monitoring and waste disposal lead testing laboratories including certification(s) of AIHA accreditation for heavy metal analysis and listing of relevant experience in air and debris lead analysis.
  9. Safety Data Sheets (SDS) on all materials and chemicals to be used on the project.
  10. Name, address, and ID number of the hazardous waste hauler, waste transfer route, and proposed disposal site.
  11. Name, address, and ID number of the proposed construction debris site.
- B. The Contractor shall submit to the Engineer the following submittals during the job:
1. Daily results from personal air samples.
  2. Medicals, certificates, and fit test 24 hours in advance of any new employee starting on the project.
  3. Copies of laboratory analysis for waste characterization sampling conducted prior to disposal.
- C. The Contractor shall submit to the Engineer the following submittals upon completion of the work:
1. Copies of manifests and receipts acknowledging disposal of all hazardous waste material from the project showing delivery date, quantity, and appropriate signature of landfill's authorized representative.

## 1.7 PERSONAL PROTECTION

- A. Exposure Assessment
1. The Contractor shall determine if any worker will be exposed to lead at or above the OSHA Action Level.
  2. The exposure assessment shall identify the level of exposure a worker would be subjected to without respiratory protection.
  3. The exposure assessment shall be achieved by obtaining personal monitoring samples representative of a full shift of at least 8-hour TWA.
  4. During the period of the exposure assessment, the Contractor shall institute the following procedures for protection of workers:
    - a. Protective clothing shall be utilized.
    - b. Respiratory protection.
    - c. Change areas shall be provided.
    - d. Hand washing facilities and shower.
    - e. Biological monitoring.
    - f. Training of workers.



**B. Respiratory Protection**

1. The Contractor shall furnish appropriate respirators approved by NIOSH/MSHA for use in atmospheres containing lead dust.
2. Respirators shall comply with the requirements of Title 29 CFR, Part 1926.62.
3. Workers shall be instructed in all aspects of respiratory protection.
4. The Contractor shall have an adequate supply of HEPA filter elements and spare parts on site for all types of respirators in use.
5. The minimum respirator protection for use during paint removal or demolition of components and surfaces with lead-containing or lead-based paint shall be the 1/2 mask air purifying respirator with high efficiency filters for exposures (not in excess of 500 µg/m<sup>3</sup> or 10 x PEL).

**C. Protective Clothing**

1. Personal protective clothing shall be provided for all workers, supervisors, and authorized visitors entering the work area.
2. Each worker shall be provided with a minimum of two (2) complete disposable coverall suits.
3. Removal workers shall not be limited to two (2) suits, and the Contractor shall supply additional suits, as necessary.
4. Under no circumstances shall anyone entering the lead removal area be allowed to re-use a contaminated disposable suit.
5. Disposable suits, such as TYVEK suits, and other personal protective equipment (PPE) shall be donned prior to entering the lead control area. A change room shall be provided for workers to put on suits and other personal protective equipment with separate areas to store their street clothes.
6. Eye protection for personnel engaged in lead operations shall be furnished when the use of a full-face respirator is not required.
7. Goggles with side shields shall be worn when working with power tools or a material that may splash or fragment, or if protective eye wear is specified on the Safety Data Sheet (SDS) for a particular product to be used on the project.

**1.8 PERSONAL MONITORING**

- A. **General.** The Contractor is required to perform the personal air sampling activities during lead-containing or lead-based paint disturbing work. The results of such sampling shall be posted, provided to individual workers, and submitted to the Owner on a daily basis, as described herein.
- B. **Sampling.** Samples shall be taken for the duration of the work shift or for eight hours, whichever is less. Personal samples need not be taken every day after the first day if working conditions remain unchanged but must be taken every time there is a change in removal operations, either in terms of the location or the type of work. Sampling will be used to determine eight-hour TWA. The Contractor is responsible for personal sampling as outlined in OSHA Standard Title 29 CFR, Part 1926.62 and Title 29 CFR, Part 1910.1025.
- C. **Sampling Results.** Air sampling results shall be reported to individual workers in written form no more than 48 hours after the completion of a sampling cycle. The reporting

document shall list each sample's result, sampling time and date, personnel monitored and their social security numbers, flow rate, sample duration, sample yield, cassette size, and analysts' name and company, and shall include an interpretation of the results. Air sample analysis results will be reported in micrograms/cubic meter ( $\mu\text{g}/\text{m}^3$ ).

- D. Testing Laboratory. The Contractor's testing lab shall be participating in AIHA's Environmental Lead Laboratory Accreditation Program (ELLAP). The Contractor shall submit to the Engineer for review and acceptance the name and address of the laboratory, certification(s) of AIHA participation, a listing of relevant experience in air lead analysis, and presentation of a documented Quality Assurance and Quality Control Program.

## PART 2 PRODUCTS

### 2.1 GENERAL

- A. Any substitution in materials, equipment, or methods to those specified shall be approved by the Engineer prior to use. Any requests for substitution shall be made in writing to the Engineer. The request shall clearly state the rationale for the substitution.

### 2.2 MATERIALS AND PRODUCTS

- A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description.
- B. Damaged or deteriorating materials shall not be used and shall be removed from the premises.
- C. The Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, polyethylene sheeting of proper size and thickness, tape, and air filters.
- D. Materials
  1. Polyethylene sheet in a roll size to minimize the frequency of joints shall be delivered to job site with factory label indicating 6-mil. A minimum of one layer of 6-mil polyethylene sheeting shall be used for ALL lead removal work areas.
  2. Polyethylene disposable bags shall be six (6) mil. Tie wraps for bags shall be plastic, five (5) inches long (minimum), pointed and looped to secure filled plastic bags.
  3. Tape or adhesive spray will be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.
  4. Impermeable containers are to be used to receive and retain any lead-containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with EPA and DOT standards.)

### 2.3 TOOLS AND EQUIPMENT

- A. Provide suitable tools for all lead disturbing operations.
- B. The Contractor shall have available power cables or sources such as generators (where required).

**PART 3 EXECUTION****3.1 WORKER PROTECTION/TRAINING**

- A. The Contractor shall provide appropriate training, respiratory and other personal protection, and biological monitoring for each worker and ensure proper usage during potential lead exposure and the initial exposure assessment.
- B. Workers who will perform procedures must have training in accordance with the requirements of OSHA Title 29 CFR, Part 1926.62.
- C. Prepare the work areas according to the following general sequence of procedures to ensure that proper dust containment and protection systems are installed before any work which could generate lead dust.
- D. Plastic Sheeting shall be polyethylene or equivalent with a thickness of at least 6 mil for all applications.
- E. Erect barricades, post access restriction signs, and maintain a decontamination facility.
- F. Obtain formal approval from Engineer of all preparation work and containment areas before commencing removal of items containing lead-based paint. Engineer shall be given at least 48 hours notification of the intent to start removal work in any work area.

**3.2 CONTRACTOR'S RESPONSIBILITIES**

- A. The Contractor is responsible for establishing and maintaining controls referenced within this section.
- B. The Contractor is also responsible for conducting work in accordance with all applicable federal, state, and local regulations and other procedures as referenced herein.

**3.3 WORKER HYGIENE PRACTICES**

- A. Required during initial exposure assessment and if results of air sampling are above OSHA Action Level.
- B. Work Area Entry.
  - 1. Workers shall don personal protective equipment prior to entering work area, including at a minimum, disposable coveralls, gloves, eye protection, and proper footwear.
- C. Work Area Departure.
  - 1. While in the work area, workers shall remove all gross contamination, debris, and dust from disposable coveralls and proceed to decontamination facility for implementation of proper worker decontamination.
- D. Hand washing Facilities.
  - 1. All workers must wash their hands and faces upon leaving the work area.
- E. Equipment.
  - 1. All equipment used by workers inside the work area shall be wet wiped or bagged for later decontamination before removal from the work area.
- F. Prohibited Activities.

1. Under no circumstances shall workers eat, drink, smoke, or chew gum or tobacco in the work area.
- G. Shock Hazards.
1. The Contractor is responsible for using safe procedures to avoid electrical hazards. All temporary electrical wiring will be protected by ground fault circuit interrupters (GFCI).

3.4 LEAD WORK AREA

- A. This designation is required during initial exposure assessment and if results of air sampling are above OSHA Action Level.
- B. The Contractor shall place warning signs at all entrances and exits from the work area. Signage shall be a minimum of 20" x 14" and shall state the following:

**DANGER  
LEAD WORK AREA  
MAY DAMAGE FERTILITY OR THE UNBORN CHILD  
CAUSES DAMAGE TO THE  
CENTRAL NERVOUS SYSTEM  
DO NOT EAT, DRINK, OR SMOKE IN THIS AREA**

- C. The Contractor shall designate a change room as specified in this Section. The change room shall be adjacent to the lead work area and decontamination facility. The change room shall have separate storage facilities for street clothes to avoid cross contamination.
- D. The Contractor shall provide potable water for hand and face washing and provide a portable shower unit.
- E. The Contractor shall place six-mil polyethylene drop cloths on floor/ground surfaces prior to beginning removal work to facilitate clean-up.

3.5 WORK AREA CLEAN UP

- A. The Contractor shall remove all loose chips and debris from floor surfaces and place in waste disposal bags.
- B. The Contractor shall HEPA vacuum adjacent surfaces to remove dust and debris. Polyethylene sheeting shall be properly disposed of.

3.6 WASTE DISPOSAL

- A. Caution Note for Contractors: All materials, whether hazardous or non-hazardous, shall be disposed of in accordance with all laws and the provisions of any or all applicable federal, state, county, or local regulations and guidelines. It shall be the sole responsibility of the Contractor to assure compliance with all laws and regulations relating to this disposal.
- B. Waste materials anticipated to be generated during abatement and demolition involves minimal quantities lead-based paint. If waste characterization sampling via TCLP method is required by the Contractor's selected landfill/disposal facility, then the Contractor's sampling strategy/methods shall be reviewed by the Engineer prior to sample submission.
  1. Results shall be furnished to the Owner and Engineer.

- C. Metal components with lead-containing or lead-based paint can be recycled at an approved recycling facility.
- D. Disposal of hazardous lead bearing material must be in compliance with the requirements of, and authorized by, the State of Connecticut Department of Energy and Environmental Protection, Office of Solid Waste Management and with the requirements of the Resource Conservation and Recovery Act (RCRA).
- E. The following materials are likely to leach lead at hazardous levels in excess of 5 mg/liter. The Contractor shall containerize and dispose of the following materials as hazardous lead waste at an EPA approved treatment, storage, and disposal facility (if characterization sampling indicates waste is hazardous).
  - 1. Paint chips.
  - 2. Paint dust.
  - 3. Dust from HEPA filters and from damp sweeping.
  - 4. Rags, sponges, mops, HEPA filters, respirator cartridges, scrapers, and other materials used for testing, removal, and clean up.
  - 5. Disposable work clothes and respirator filters.
  - 6. Contents of HEPA vacuums used on this project.
- F. The cost of the above disposal of hazardous waste is to be borne by the Contractor and provided at no additional cost to the Owner.
- G. Contractor shall wipe the following materials clean of all dust, dirt and debris and dispose of the material as construction debris:
  - 1. Polyethylene sheeting used in removal activities other than chemical removal.
- H. Contractor shall collect the wash water generated by the worker shower and wash facilities in 55-gallon drums and filter the water using a 2-stage filtration system composed of:
  - 1. 5-micron porosity in-line cartridge particulate filter followed by activated carbon filter in-line cartridge
  - 2. Hold the filtered water for testing prior to discharge to the sanitary sewer. Contractor shall test the water and verify lead levels below 0.1 parts per million (ppm) and pH between 6 and 8 prior to discharge. Water that fails the testing criteria shall be treated with sodium hydroxide, pH adjusted, and retested. If the second test does not meet the site-specific lead level, the Contractor shall filter wastewater by reverse osmosis prior to testing and discharge to the sanitary sewer.
- I. All hazardous lead waste shall be containerized in accordance with Title 49 CFR, Part 178. Label and placard each container in accordance with Title 40 CFR, Part 1926.62 and Title 40 CFR, Part 172 to identify the type of waste and the date the container was filled.
- J. Lead Waste must be removed from the site within 30 days of generation.
- K. The Contractor may not store containerized hazardous lead waste (only) on the job site for in excess of 180 calendar days from the accumulation start date and may not store it past the date of project completion.

- L. Contractor shall utilize a certified transporter for hazardous waste in compliance with DOT Title 49 CFR, Part 172.
  - 1. Contractor shall submit the completed Uniform Hazardous Waste Manifest, EPA Form 8700-22 for each load of hazardous waste within 30 calendar days following the date the waste leaves the site. Copies of all landfill receipts will be retained by the Engineer as part of the project file. The receipts will be signed by the landfill operator upon delivery, and the quantity of lead-containing debris leaving the job site and arriving at the landfill acknowledged.

**TABLE 1 - LIST OF PAINTED ITEMS WITH DETECTABLE LEVELS OF LEAD**

<b>Material Description</b>	<b>Material Location</b>	<b>Substrate</b>	<b>Lead Concentration Percent (%) Lead by Weight</b>	<b>Comments</b>
White/Green Painted Walls <sup>(1)</sup>	Center Section – Lower and Upper Leves – Throughout	Brick	0.088	
White Painted Ceilings <sup>(1)</sup>	North Wing – Upper Level – Throughout	Metal	0.018	
Gray/Blue/Yellow Painted Foundation <sup>(1)</sup>	Exterior – Center Section – Side A and Side C	Concrete	0.021	
Gray Painted Window Sashes and Frames <sup>(1)</sup>	Exterior – Center Section – Lower and Upper Level – Throughout	Metal	<b>3.2</b>	Window caulk associated with these windows is EPA PCB Bulk Product Waste, $\geq 50$ ppm. Metal window components and adjacent brick facades are also to be disposed of EPA PCB Bulk Product Waste, $\geq 50$ ppm.
White/Beige Painted Doors and Door Frames <sup>(1)</sup>	Exterior – Center Section Upper Level – Throughout	Wood	<b>10</b>	Painted wood components are of minimal quantity, only four sets of doors. This material is to be included with the rest of the building demolition waste and is not considered to be lead hazardous waste.
<b>LEGEND - Bolded</b> concentrations indicate lead-based paint per EPA and CTDPH standards ( $>0.5\%$ lead by weight)				
(1) Material also contains CTDEEP PCBs, $<50$ ppm and $>1$ ppm.				

Appendix A – Lead Paint Chip Laboratory Report

END OF SECTION

**Tighe&Bond**

**APPENDIX A**





# EMSL Analytical, Inc.

528 Mineola Avenue, Carle Place, NY, 11514  
Telephone: 516.997.7251 Fax:856-786-5974  
EMSL-CP-06

EMSL Order ID: 062455776  
LIMS Reference ID: EC55776  
EMSL Customer ID: TIGH62

**Attention:** James Webb  
Tighe & Bond [TIGH62]  
213 Court Street, Suite 1100  
Middletown, CT 06457  
(860) 933-0622  
jtwebb@tighebond.com

**Project Name:** 11-5178-0001 - Notch Road Municipal Center -  
104 Notch Road, Bolton, CT  
**Customer PO:**  
**EMSL Sales Rep:** David Prince  
**Received:** 08/26/2024 10:05  
**Reported:** 08/27/2024 16:26

## Analytical Results

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
<b>Client Sample ID: 24-0821-LCHP-NY-01/Center Section - Lower Level - Room 16 - Brick - Wall White/Green</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-01</b>			
Lead	0.088 % wt	0.008 % wt	0.2652	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-02/North Wing - Lower Level - Church - Concrete - Wall White/Yellow</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-02</b>			
Lead	<0.008 % wt	0.008 % wt	0.2824	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-03/Center Section - Lower Level - Corridor - CMU - Wall White/Yellow/Red</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-03</b>			
Lead	<0.008 % wt	0.008 % wt	0.2713	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-04/Center Section - Lower Level - Room 18 - Gypsum Board - Wall White</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-04</b>			
Lead	<0.008 % wt	0.008 % wt	0.2514	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-05/Center Section - Lower Level - Stairwell (Right) - Concrete - Floor/Stair Tread Red</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-05</b>			
Lead	<0.008 % wt	0.008 % wt	0.2848	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-06/North Wing - Upper Level - Staff Room - Metal - Ceiling White</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-06</b>			
Lead	0.018 % wt	0.008 % wt	0.2796	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-07/North Wing - Upper Level - Staff Room - Metal - Door/Door Frame White/Green</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-07</b>			
Lead	<0.008 % wt	0.008 % wt	0.2826	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-08/Exterior Side A - Concrete - Foundation Gray/Blue/Yellow</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-08</b>			
Lead	0.021 % wt	0.008 % wt	0.2637	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	1	
Sample Comments:									
<b>Client Sample ID: 24-0821-LCHP-NY-09/Exterior Side A - Metal - Window Gray</b>						<b>Date Sampled: 08/21/24</b>			
<b>Matrix: Chips</b>						<b>LIMS Reference ID: EC55776-09</b>			
Lead	3.2 % wt	0.20 % wt	0.2537	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	D	25
Sample Comments:									



**EMSL Analytical, Inc.**

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Telephone: 516.997.7251 Fax:856-786-5974  
EMSL-CP-06

**EMSL Order ID:** 062455776  
**LIMS Reference ID:** EC55776  
**EMSL Customer ID:** TIGH62

**Attention:** James Webb  
Tighe & Bond [TIGH62]  
213 Court Street, Suite 1100  
Middletown, CT 06457  
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jtwebb@tighebond.com

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104 Notch Road, Bolton, CT  
**Customer PO:**  
**EMSL Sales Rep:** David Prince  
**Received:** 08/26/2024 10:05  
**Reported:** 08/27/2024 16:26

**Analytical Results  
(Continued)**

Analyte	Results	RL	Weight(g)	Prep Date & Tech	Prep Method	Analysis Date & Analyst	Analytical Method	Q	DF
Client Sample ID: 24-0821-LCHP-NY-10/Exterior Side A - Wood - Door White/Beige							Date Sampled: 08/21/24		
Matrix: Chips							LIMS Reference ID: EC55776-10		
Lead	10 % wt	0.74 % wt	0.2705	08/27/24 BA	SW-846 3050B	08/27/24 BA	SW 846-7000B	D	100
Sample Comments:									



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**Certified Analyses included in this Report**

Analyte	Certifications
<b>SW 846-7000B in Chips</b>	
Lead	06-AIHA LAP

**List of Certifications**

Code	Description	Number	Expires
06-AIHA LAP	EMSL Analytical, Inc. Carle Place, NY AIHA-LAP, LLC-ELLAP Accredited	102344	09/01/2024
06-NYSDOH	New York State Department of Health	11469	04/01/2025
06-NYSELAP	NY NYS ELAP	11469	04/01/2025
06-California ELAP	California Water Boards	2339	04/01/2025
06-CTDPH	Connecticut Department of Public Health	PH-0249	03/31/2025

Please see the specific Field of Testing (FOT) on [www.emsl.com](http://www.emsl.com) <<http://www.emsl.com>> for a complete listing of parameters for which EMSL is certified.

**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.
NR	Spike/Surrogate showed no recovery.
Q	Qualifier
RL	Reporting Limit
Wet	Sample is not dry weight corrected.

Measurement of uncertainty and any applicable definitions of method modifications are available upon request. Per EPA NLLAP policy, sample results are not blank corrected.



**EMSL Analytical, Inc.**

528 Mineola Avenue, Carle Place, NY, 11514  
Telephone: 516.997.7251 Fax:856-786-5974  
EMSL-CP-06

**EMSL Order ID:** 062455776  
**LIMS Reference ID:** EC55776  
**EMSL Customer ID:** TIGH62

**Attention:** James Webb  
Tighe & Bond [TIGH62]  
213 Court Street, Suite 1100  
Middletown, CT 06457  
(860) 933-0622  
jtwebb@tighebond.com

**Project Name:** 11-5178-0001 - Notch Road Municipal Center -  
104 Notch Road, Bolton, CT

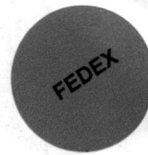
**Customer PO:**  
**EMSL Sales Rep:** David Prince  
**Received:** 08/26/2024 10:05  
**Reported:** 08/27/2024 16:26

---

James Han 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. QC sample results 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.

Analysis following EMSL SOP for the Determination of Environmental Lead by FLAA. The laboratory has a reporting limit of 0.008% by wt., based upon a minimum sample weight of 0.25g submitted to the lab, and is not responsible for any result or reporting limit provided in mg/cm<sup>2</sup> since it is dependent upon an area value provided by non-lab personnel. A "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty and definitions of modifications are available upon request. Results in this report are not blank corrected unless specified.



**SAMPLE LOG FOR LEAD  
IN PAINT CHIPS**

Sheet 1 of 1

Project Name: Notch Road Municipal Center

Project No. 11-5178-0001

Building: 104 Notch Road, Bolton, CT

Project Manager: James Webb

Sample ID	Component	Color	Material Location	Substrate	Sample Area (size)
24-0821-LCHP-NY-01	Wall	White/ Green	Center Section - Lower Level - Room 16	Brick	2 Square Inches
24-0821-LCHP-NY-02	Wall	White/ Yellow	North Wing - Lower Level - Church	Concrete	2 Square Inches
24-0821-LCHP-NY-03	Wall	White/ Yellow/Red	Center Section - Lower Level - Corridor	CMU	2 Square Inches
24-0821-LCHP-NY-04	Wall	White	Center Section - Lower Level - Room 18	Gypsum Board	2 Square Inches
24-0821-LCHP-NY-05	Floor/Stair Tread	Red	Center Section - Lower Level - Stairwell (Right)	Concrete	2 Square Inches
24-0821-LCHP-NY-06	Ceiling	White	North Wing - Upper Level - Staff Room	Metal	2 Square Inches
24-0821-LCHP-NY-07	Door/Door Frame	White/ Green	North Wing - Upper Level - Staff Room	Metal	2 Square Inches
24-0821-LCHP-NY-08	Foundation	Gray/Blue/ Yellow	Exterior - Side A	Concrete	2 Square Inches
24-0821-LCHP-NY-09	Window	Gray	Exterior - Side A	Metal	2 Square Inches
24-0821-LCHP-NY-10	Door	White/ Beige	Exterior - Side A	Wood	2 Square Inches

Analysis Method: Lead Flame AA Analysis /EPA-SW-846-3050(MOD.)

Turnaround Time 1 Week

Email Results To: JTWebb@tighebond.com

Special Instructions: Report LBP analytical results in Percent (%) by Weight

RECEIVED  
EMSL ANALYTICAL, INC.  
Carle Place, NY  
AUG 26 2024 AM 10:05

Samples Collected By: Nathan Yergeau Date: 08/21/2024 Time: 1600

Samples Rec'd/Sent By: [Signature] Date: 08/23/2024 Time: 1750

Samples Received By: James Han Date: 8/26/24 Time: 10:05 AM

Shipped To:  EMSL (State) NY  Other \_\_\_\_\_

Method of Shipment:  Fed Ex.  UPS Overnight  UPS Ground  Other \_\_\_\_\_

*Pb P/M 8/27/24*

## SECTION 02840

## PCB-CONTAMINATED BUILDING MATERIALS ABATEMENT

## PART 1 GENERAL

## 1.1 SUMMARY

- A. This Section establishes requirements for the removal, segregation, management, and disposal of Polychlorinated Biphenyl (PCB)-containing building materials.
- B. The intent of this Section is to identify applicable regulations the Contractor must comply with to perform abatement and demolition activities for this project related to PCB-containing building materials including, but not limited to, the following:
  - 1. Health and safety procedures
  - 2. Worker training
  - 3. Abatement, demolition, and removal procedures
  - 4. Disposal requirements
- C. The Contractor is solely responsible for health and safety procedures related to their work.
- D. This Section specifies requirements for the removal, management, and disposal of the following PCB-containing wastes:
  - 1. PCB Bulk Product Waste ( $\geq 50$  parts per million [ppm])
  - 2. CTDEEP Regulated PCB Waste ( $> 1$  ppm, but  $< 50$  ppm PCBs)
- E. This Section specifies requirements for the abatement and management of PCB-contaminated building materials.
- F. Certain building materials slated for demolition also contain asbestos  $> 1\%$ . The Contractor must follow the requirements of Section 02820 – Asbestos Abatement for proper removal and disposal of asbestos-containing materials in addition to those requirements listed in this Section.
- G. Certain building materials slated for demolition are also coated with lead-based or lead-containing paint. The Contractor must follow the requirements of Section 02830 – Lead Paint Awareness for proper removal and disposal of lead containing materials in addition to those requirements listed in this Section.

## 1.2 RELATED DOCUMENTATION

- A. Related Sections
  - 1. Section 02222, Building Demolition
  - 2. Section 02820, Asbestos Abatement
  - 3. Section 02830, Lead-Based Paint Management
  - 4. Section 02850, Hazardous Materials Management
- B. Related Drawings
  - 1. HBM-1 Hazardous Building Materials Abatement Plan – Lower and Upper Levels

## 2. HBM-2 Hazardous Building Materials Abatement Plan – Roof

### 1.3 DESCRIPTION OF WORK

- A. In general, the following work involving PCB-contaminated building materials is anticipated during this Project:
1. Removal, containerization, and disposal of window caulking throughout the Center Section as mixed Friable Asbestos / PCB Bulk Product Waste  $\geq 50$  ppm in accordance with Connecticut General Statutes (CGS) 22a-463 through 22a-469, Title 40 CFR, Part 761, and this section.
  2. Removal, containerization, and recycling (out of State) of painted metal components including but not limited to, structural steel, ceiling panels, doors, door frames, window frames, and window sashes. These items include paints with concentrations  $< 50$  ppm.
  3. Demolition and disposal of remaining portions of the building and roof structures as mixed Friable Asbestos / CTDEEP Regulated PCB Waste ( $< 50$  ppm) with the in accordance with CGS 22a-463 through 22a-469 and this section.
    - a. The Contractor may elect to segregate the roofing materials as asbestos waste only.
  4. Wastes, personal protective equipment (PPE), liquids, etc. generated as a part of the PCB remediation must be disposed of as PCB Remediation Waste. Liquid wastes must be separated and stored in leak-tight containers (e.g. 55-gallon steel drums). All waste generated during PCB abatement must be labeled in accordance with Title 40 CFR, Part 761.
- B. PCB-Contaminated Building Materials Abatement work must include, but not be limited to, the materials identified in Table 02840 located at the end of this Section.
1. The quantities in Table 02840 are provided to establish the order of magnitude of the abatement project. Actual quantities may vary.
  2. It is the sole responsibility of the Contractor to visit the site, review the Contract Documents and determine the quantities of materials to be removed when developing their Bid.
- C. Contractor must mitigate dust-generating activities in accordance with the requirements of this Section, Section 02222 Building Demolition, and Section 02820 Asbestos Abatement.
- D. As further detailed in this Section, no sampling and/or analysis by the Contractor or affiliates of the Contractor (subcontractors, subconsultants, etc.) for total PCBs may be performed at any point during the performance of the work, except as specifically authorized in writing by the Owner and the Engineer.
1. The Contractor may collect representative samples of the waste stream if needed for PCB analysis via the Toxicity Characteristic Leaching Procedure (TCLP) for waste disposal purposes only.
  2. The Contractor is responsible for selecting disposal and recycling facilities that can accept PCB wastes without total PCB analysis other than such data that is included with the Contract Documents.
  3. If the Contractor or affiliates of the Contractor (subcontractors, subconsultants, etc.) take unauthorized samples and analyze them for total PCBs, then the

contractor will be responsible for the cost of any resulting removal required under state and federal regulations triggered by their sampling and analysis.

4. The Owner and the Engineer must specifically review and approve in writing a proposed PCB sampling and analysis plan prior to samples being submitted for laboratory analysis.
- E. In general, the following activities are minimum requirements of this Section and affect the demolition performed on building components identified to contain PCBs:
1. No torch cutting of PCB-contaminated building materials may be performed.
  2. No demolition activities may occur that can reasonably be expected to increase the worker's exposure above the Permissible Exposure Limits (PEL) for PCBs unless certain worker protection is implemented.
  3. Workers must be informed of the PCB-contaminated building materials to be removed.
  4. At a minimum, worker protection must comply with applicable Occupational Safety and Health Administration (OSHA) standards. Worker Right to Know and Health and Safety Standards of Title 29 CFR, Part 1926 must also apply to the work of this Section.
  5. Unprotected, untrained workers or trades must not perform any related work within or adjacent to work areas involving PCB-contaminated building materials.

#### 1.4 SUBMITTALS

- A. Prior to the start of the work, prepare and submit the following items. Do not commence work activities until submittals are approved.
1. Work schedule two weeks prior to commencement of work.
  2. Written Contractor Work Plan that summarizes the Contractor's means and methods related to the demolition, containment, management, and disposal of PCB-contaminated building materials and wastes.
    - a. The Work Plan must include management and disposal of CTDEEP Regulated PCB Waste, Mixed Friable Asbestos / PCB Bulk Product Waste, and Solid / Liquid PCB Remediation Waste.
    - b. The Work Plan must include information on how and where wastes will be stored, marked, and disposed of, and how field equipment will be decontaminated.
    - c. A description of the waste load-out process and route to disposal containers must also be included.
    - d. The plan must also address PPE, worker health and safety training, and decontamination procedures.
    - e. The Work Plan must include type of materials, equipment, machines, vehicles, etc. anticipated to be used during demolition and/or segregation and general summary of the processes.
    - f. Copies of PCB awareness training for all workers and supervisors involved with PCB-containing building materials removal. Awareness training must cover the following at a minimum:



- 1) Dangers inherent in handling PCBs and proper work procedures, worker protective measures, dust suppression methods, waste containerization, and disposal requirements.
- g. The Contractor Work Plan must be reviewed and accepted by the Engineer.
  - 1) Review of Contractor's Work Plan does not constitute approval of any specified means, methods and health and safety measures to be implemented.
  - 2) The review will be for general compliance with this specification and associated applicable State and Federal PCB regulations.
3. Certification signed by the Contractor stating that the Contractor will comply with all State of Connecticut and Toxic Substances Control Act (TSCA) requirements for PCB removal and disposal.
4. Pertinent information relating to the transportation and disposal of PCB-containing materials.
  - a. This includes names of transporters and disposal facilities to be used including proof of permit, license, or authorization to transport and dispose of PCB-containing materials in all affected states.
  - b. The Contractor must include information related to disposal facilities' ability to accept waste containing PCBs and other contaminants known to be part of the waste stream.
  - c. The Contractor must provide the Engineer draft copies of all waste profiles and manifests for review prior to Owner / disposal facility signature.
- B. Contract Closeout Submittals (throughout project and prior to authorization of final payment):
  1. Records of the amounts of waste generated by waste type.
  2. Evidence of lawful disposal of all PCB wastes generated.

#### 1.5 REGULATORY REQUIREMENTS

- A. CGS 22a-463 through 22a-469 as it relates to the generation, staging, labeling, removal, and off-site management of PCB Waste.
- B. Title 40 CFR Part 761 also known as TSCA, as it pertains to PCB-contaminated materials remediation, waste disposal, and all other management requirements included within the regulations.
- C. Contractor is solely responsible for obtaining permits or approvals which may be required to perform the work of this Section, including all costs, fees and taxes required or levied.
- D. Comply with all applicable federal, state, and local environmental, safety and health requirements regarding the demolition of structures and other site features and recycling or disposal of demolition debris, as applicable.
- E. All workers involved with PCB-containing building materials removal activities must have attended a PCB awareness class.

**1.6 DEFINITIONS**

- A. ABATEMENT - Procedures to control dust/debris release from PCB-contaminated materials; includes removal, encapsulation, and enclosure.
- B. AUTHORIZED VISITOR - Any person authorized by the Owner to enter the building.
- C. BUILDING OWNER - For this Contract only, the building Owner is the Town of Bolton, Connecticut.
- D. COMPETENT PERSON - A representative of the Contractor who can identify a PCB hazard and who has the authority to take prompt corrective measures to eliminate the hazard during PCB removal.
- E. DECONTAMINATION ENCLOSURE SYSTEM - A series of connected areas, with curtained doorways between any two adjacent areas, for the decontamination of workers and equipment. A decontamination enclosure system always contains at least one airlock and is adjacent and connected to the regulated area, where possible.
- F. ENGINEER – Third Party Engineering/Environmental Consultant.
- G. EPA – U.S. Environmental Protection Agency.
- H. EXCLUDED PCB PRODUCTS - Materials that contain PCB concentrations less than 50 ppm as further defined in TSCA.
- I. FACILITY - Any private or public building or structure including but not limited to those used for institutional, residential (including single family homes), commercial or industrial purposes and vessels while ashore or in dry-dock.
- J. HAZARDOUS WASTE MANIFEST - a form required by EPA and the Department of Transportation for all generators who transport, or offer for transport, hazardous waste for off-site treatment, recycling, storage, or disposal.
- K. HEPA FILTER - A high efficiency particulate air (HEPA) filter in compliance with ANSI Z9.2.
- L. HEPA VACUUM EQUIPMENT - Vacuum equipment with a HEPA filter system for filtering the effluent air from the unit.
- M. NEGATIVE AIR FILTRATION EQUIPMENT - A portable local exhaust system equipped with HEPA filtration used to create negative pressure in a regulated area (negative with respect to adjacent unregulated areas) and capable of maintaining a constant, low velocity air flow into regulated areas from adjacent unregulated areas.
- N. OWNER'S REPRESENTATIVE -The PCB Consultant/Engineer for the project.
- O. PCB ABATEMENT WORKER - Any employee of a Contractor who engages in PCB abatement.
- P. PCB CONTROL AREA - An area where PCB abatement operations are performed which is isolated by physical boundaries to prevent the spread of PCB dust or debris.
- Q. PLASTICIZE - To cover floors and walls with plastic sheeting as specified herein.
- R. POLYCHLORINATED BIPHENYLS (PCBS) - Any of several compounds that are produced by replacing hydrogen atoms in biphenyl with chlorine, which have various industrial applications, and are toxic environmental pollutants which tend to accumulate in animal tissues. Probable human carcinogen per U.S. EPA.

- S. WET CLEANING - The process of reducing PCB contamination from building surfaces and objects by using cloths, mops, or other cleaning tools, which have been dampened by amended water or other cleaning fluids, and by then disposing of these cleaning items as PCB-contaminated waste.
- T. WORK AREA - Designated rooms, spaces, or areas of the project in which PCB abatement actions are occurring and which may become contaminated as a result of such abatement actions. The work area must be totally self-contained by sealing, plasticizing, and equipping the area with a decontamination enclosure system.
- U. WORK STOPPAGE CLEANUP PROCEDURE - A process following the issuance of a written stop work order, whereby the Contractor thoroughly cleans and decontaminates the work area, the decontamination enclosure system, and any other areas of the building affected by the removal project, to the satisfaction of the Engineer.
- V. WORK ZONE - The area of the decontamination enclosure system where PCB-contaminated items are being removed.

Additional terms used in this Section are defined in Title 40 CFR Part 761 also known as TSCA. Contractor is responsible for familiarizing themselves with the content of and terms defined in Title 40 CFR Part 761 prior to submitting bids for this project.

## PART 2 PRODUCTS

### 2.1 ABATEMENT PRODUCTS

- A. All materials must be delivered in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
- B. Disposal Drums: Metal or fiberboard with locking ring tops with warning labels as required by Department of Transportation (DOT), OSHA and/or Environmental Protection Agency (EPA).
- C. Respirators:
  - 1. Type: Approved by the Mine Safety and Health Administration (MSHA), Department of Labor, or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.
- D. Vacuum Cleaners:
  - 1. Type: Vacuums equipped with HEPA filters.
- E. Polyethylene Sheeting:
  - 1. Type: Minimum 6-mil, opaque, fire-retardant polyethylene sheets.
  - 2. Floor Protective Layer (when applicable): Minimum 10-mil, reinforced polyethylene sheets.
- F. Cleaning Products:
  - 1. All such products must be utilized in accordance with the manufacturer's specifications as intended. Contractor must ensure appropriate use and disposal associated with use in accordance with the SDS sheets for each product utilized.
  - 2. It is incumbent upon the Contractor to determine the need for use of specialty products to meet required cleaning verification levels established herein and in accordance with the Work Plan.
- G. HEPA-Filtered Exhausts

1. Air inside negative pressure enclosures must be exhausted through a High Efficiency Particulate Air (HEPA) filter.
2. Commercially manufactured HEPA-filtered exhaust units, with specification plates intact, must be provided for each work area to attain, at a minimum, four air volume changes per hour and an inward flow of clean air into each work area at the Decontamination Facility of at least 100 feet per minute.
3. The HEPA filter must be preceded by replaceable pre-filters and the unit must be designed so that it cannot be operated unless all filters are in place.
4. The purpose of the containment system is to capture fugitive particulate while removing PCB-contaminated items using mechanical means and/or methods which generate potential PCB-contaminated dust.

#### H. Warning Signs

1. Warning signs must be in English and the language of any workers onsite who do not speak English, and be of sufficient size to be clearly legible and display the following or similar language in accordance with Title 29 CFR, Part 1910.1200:

**WARNING  
HAZARDOUS WASTE WORK AREA  
PCBs-POISON  
NO SMOKING, EATING OR DRINKING  
AUTHORIZED PERSONNEL ONLY  
PROTECTIVE CLOTHING IS REQUIRED IN THIS AREA**

## 2.2 PERSONNEL PROTECTION

- A. Safety equipment as specified in the Contractor's Health and Safety Plan (e.g., hard hats meeting the requirements of ANSI Standard Z89.1, eye protection meeting the requirements of ANSI Standard Z87.1, safety shoes meeting the requirements of ASTM Standard F2412/F2413, disposable PVC gloves or other work gloves), must be provided to all workers and authorized visitors.
- B. Non-skid footwear must be provided to all abatement workers. Disposable clothing must be adequately sealed to the footwear to prevent body contamination.
- C. If containments are necessary with dust-generating operations, the contractor must include the following products:
  1. Plastic Sheeting ("Poly") - must be polyethylene or equivalent with two layers with a thickness of at least 6-mil for all applications.
  2. Tape and Glue – Must be capable of sealing plastic joints and attaching plastic to finished surfaces. The bonding strength and resulting seal integrity must not be affected by mist or water, wetting agent, or any other materials to be used in the work area.

## PART 3 EXECUTION

### 3.1 PROJECT MEETINGS

- A. Pre-Construction Meeting
  1. At least one week prior to the start of work a Pre-Construction Meeting will be scheduled and must be attended by the Contractor and any Sub-Contractors.
  2. The assigned Contractor Site Supervisor is also required to attend this meeting.

3. The Contractor must present a detailed project schedule, work plan, and project submittals at the Pre-Construction Meeting.
4. Variations, amendments, and corrections to the presented schedule will be discussed and the Owner and Engineer will inform the Contractor of any scheduling adjustments for this project.
5. Following the Pre-Construction Meeting, the Contractor must submit a revised schedule (if needed) no later than one week after the meeting.

### 3.2 WORK AREAS AND ZONES

- A. The Contractor must lay-out and clearly identify work areas in the field. Access by equipment, site personnel, and the public to the work areas must be limited as follows:
  1. Abatement Zone:
    - a. The Abatement Zone(s) must consist of all exterior areas where removal of PCBs and other Hazardous Substances and waste handling and staging activities are on-going and the immediately surrounding locale or other areas where contamination could occur.
    - b. The Abatement Zone for purposes of exterior removal of PCB materials or other Hazardous Substances for disposal must be performed within a regulated area (refer to section 3.6) to identify work areas from non-work areas.
    - c. The work area must be visibly delineated with appropriate warning signs at all approaches to the Abatement Zone (including a PCB M<sub>L</sub> marker) and be restricted from access by all persons except those directly necessary for the completion of the respective abatement tasks.
    - d. The Abatement Zone must be located and delineated as necessary to limit access to the abatement area and to minimize risk of exposure to site workers and the general public.
    - e. Access must be controlled at the periphery of the Abatement Zone to regulate the flow of personnel and equipment into and out of the zone and to help verify that proper procedures for entering and exiting are followed.
    - f. All persons within the Abatement Zone must wear the appropriate level of protection established in the health and safety plan (HASP) required in Section 01350.
  2. Decontamination Zone:
    - a. The Decontamination Zone is the transition zone between the abatement area and the clean support zone of the project site and is intended to reduce the potential for contaminants from being dispersed from the Abatement Zone to clean areas of the site.
    - b. The Decontamination Zone must consist of a buffer area surrounding the Abatement Zone through which the transfer of equipment, materials, personnel and containerized waste products will occur and in which decontamination of equipment, personnel, and clothing will occur.
    - c. The Decontamination Zones must be constructed as a remote three chamber decontamination unit for workers and a decontamination area for large equipment and trucks as detailed in Section 3.8.

- d. All emergency response and first aid equipment must be readily maintained in this Zone.
  - e. All protective equipment and clothing must be removed or decontaminated in the Decontamination Zone prior to exiting the Support Zone.
3. Support Zone:
- a. The Support Zone will consist of the area outside the Decontamination Zone and the remainder of the project site.
- B. Administrative and other support functions and any activities that by nature need not be conducted in the Abatement or Decontamination Zone related to the project must occur in the Support Zone, Access to the Abatement and Decontamination Zones must be controlled by the Health and Safety Officer and limited to those persons necessary to complete the abatement work and which have reviewed and signed the HASP.

### 3.3 ABATEMENT, DEMOLITION, AND REMOVAL METHOD REQUIREMENTS

- A. Abatement and demolition activities must be conducted in a manner that prevents the release of potential PCB-contaminated dusts to areas outside the immediate work zone.
  - 1. Mechanical means and/or methods for abatement which generate potential PCB-contaminated dust must be conducted within negative pressure enclosures.
  - 2. The sole use of guards and/or HEPA-vacuums on mechanical equipment is not sufficient.
  - 3. All demolition activities must be completed using means and methods which minimize dust generation, including but not limited to the use of water misting, controlled wrecking and materials management, routine cleaning of ground surfaces, etc. Dust control required during demolition is further specified in Section 02222 Building Demolition.
- B. Non-PCB contaminated demolition debris (if any) must be segregated from PCB-contaminated demolition debris and disposed of in accordance with this Section.
  - 1. Additional disposal costs resulting from cross-contamination of these materials caused by Contractor mismanagement will be the responsibility of the Contractor.
- C. Feasible engineering controls (i.e., misters, ventilation with HEPA filtration) must be implemented by the Contractor to minimize the possibility of contamination of areas adjacent to the work area.
- D. Workers must be informed of the building components to be removed that have been identified as containing PCBs and must implement appropriate personal protection (respiratory, dermal, etc.)
- E. All proposed demolition and removal methods must be included in the Contractor Work Plan.

### 3.4 WORKER PROTECTION

- A. The Contractor is solely responsible for the health and safety of workers employed by the Contractor, any subcontractor and anyone directly or indirectly employed by any of them. The Engineer is not responsible for health and safety procedures related to the Contractors work.

- B. The Contractor must be responsible for ensuring OSHA compliance for all personnel working with PCB items, including providing appropriate PPE and training to use such protective equipment.
- C. During demolition activities, Contractor must ensure that workers are not exposed to any listed contaminant in excess of the PEL. If exposure cannot be reduced to or below the PEL using engineering controls or revised work practices, the Contractor must provide the appropriate level of PPE including, but not limited to, respiratory and dermal protection.
- D. Contractor personnel involved in the removal or disturbance of PCB-contaminated building materials must be advised of all hazards associated with the work.
- E. Contractor is advised that certain PCB building materials may also contain lead, asbestos, and/or other contaminants.
- F. PPE must be worn in areas where any disturbance of PCB materials is performed. This includes but is not limited to removal and cleaning.
- G. Marking of PCB work areas and PCB storage areas must be in accordance with 40 CFR 761 and CGS 22a-463 through 22a-469.

### 3.5 WORKER HYGIENE PRACTICES

- A. Work Area Entry
  - 1. Workers must don PPE prior to entering work area, including respiratory protection, disposable coveralls, gloves, headgear, and footwear.
- B. Work Area Departure
  - 1. While leaving respirators on, workers must remove all gross contamination, debris, and dust from disposable coveralls and proceed to change room and remove coveralls and footwear and place in hazardous waste disposal container.
- C. Hand washing Facilities
  - 1. All workers must wash their hands and faces upon leaving the work area.
- D. Equipment
  - 1. All equipment used by workers inside the work area must be wet wiped or bagged for later decontamination before removal from the work area.
- E. Prohibited Activities
  - 1. Under no circumstances shall workers eat, drink, smoke, chew gum, or tobacco, or remove their respirators in the work area.
- F. Shock Hazards
  - 1. The Contractor is responsible for using safe procedures to avoid electrical hazards. All temporary electrical wiring will be protected by ground fault circuit interrupters (GFCI).

### 3.6 GENERAL WORK AREA PREPARATION

- A. A Competent Person must be on the job at all times to ensure the establishment of proper separation of the work area from non-work areas, and proper work practices are followed through project completion.

- B. Where necessary, shut down electrical power. Provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All installations are to be made by a Connecticut licensed electrician.
- C. Shut down and/or isolate heating, cooling, and ventilation air systems or zones to prevent contamination and fiber dispersal to other areas of the structure. During the work, vents around the work area must be sealed with duct tape and polyethylene sheeting.
- D. Install and secure ground cover in place consisting of one layer of 6-mil re-enforced poly covered with  $\frac{3}{4}$  inch plywood, extending out a minimum of 15 feet from the building perimeter.
- E. Install yellow caution tape at the perimeter of the ground protection to establish the limit of the work area.

### 3.7 WORK AREA PREPARATION FOR NEGATIVE PRESSURE ENCLOSURES

- A. Negative pressure enclosures must be utilized by the Contractor during removal means and/or methods which generate potential PCB-contaminated dust.
  - 1. Negative pressure enclosures must be utilized during all removal activities involving mechanical equipment whether equipment is equipped with HEPA-vacuums or not.
- B. Provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All temporary installations are to be made by a licensed electrician, installed outside work areas, and permitted as required.
- C. Seal off all openings, including but not limited to windows, corridors, doorways, skylights, ducts, grills, diffuser, and any other penetration of the work areas, with polyethylene sheeting minimum of 6-mil thick sealed with duct tape. This includes doorways and corridors which will not be used for passage during work areas and occupied areas. Install five-micron water filtration socks in all floor drains prior to sealing.
- D. Install two layers of 6-mil polyethylene wall sheeting over all wall surfaces where work will not occur and critical barriers. All overlaps must be sealed with tape or spray adhesive.
- E. Cover all floors in the work area with two layers of 6-mil polyethylene sheeting.
  - 1. Extend the polyethylene flooring a minimum of 12 inches up the walls. Ensure that the wall sheeting overlaps the floor sheeting from the top.
- F. Where containments extend above suspended or fixed ceilings, remove the ceiling as necessary to perform installation of isolation barriers and wall sheeting above ceiling. Wall sheeting must extend to the top of each wall in ceiling plenum areas.
- G. Maintain emergency and fire exits from the work area or establish alternative exits satisfactory to fire officials.
- H. Create pressure differential between work areas and non-work areas by the use of acceptable negative air pressure equipment.
  - 1. Negative air pressure must be obtained throughout the containment and the total volume of air within the work area must be changed every 15 minutes.
  - 2. Install one or more portable HEPA-filtered exhausts to maintain negative air pressure to each individual work where containment procedures are utilized.
  - 3. The exhaust(s) must be capable of providing at least an inward velocity through any unsealed openings of at least 100 fpm, and four full air changes per hour throughout the work area.



4. All exhaust air must pass through a HEPA-filter before being discharged outside the building.
  5. The exhaust system must be operated constantly during active disturbance of PCB-containing materials.
- I. Post all approaches to each work area with warning signs. Warning signs must be of size and type that are easily readable and are visible from all approaches to the work areas and adhere to regulatory requirements.
  - J. Establish a work area access control log at the entrance to each work area. Authorized personnel entering the work area must sign in upon entering the area and sign out upon exiting the area.
  - K. Establish airless spray equipment within each work area. Airless spray equipment must be capable of reaching all areas within each work area.

### 3.8 DECONTAMINATION SYSTEM

#### A. Worker Decontamination

1. The Contractor must establish on-site, a decontamination enclosure consisting of equipment room, shower room, and clean room in series. Decontamination unit must be contiguous to the work area for negative pressure enclosure work procedures. Component removal work areas must have a minimum wash station (contiguous or remote).
2. Access between rooms in the decontamination system must be through double-flap-curtained openings. The clean room, shower and equipment rooms within the decontamination enclosure must be completely sealed.
3. Construct the decontamination system with plastic, wood, or metal framing and cover both sides with a double layer of 6-mil poly, completely sealed with spray adhesive and tape at the joints.
4. The Contractor and the Engineer must visually inspect barriers routinely to assure effective seal; the Contractor must repair defects immediately.

#### B. Equipment Decontamination

1. The Contractor must establish on-site, a decontamination area large enough to decontaminate large equipment, such as excavators, trucks, etc., consisting of rubber membrane sheeting.
2. The edges of the membrane must be constructed to stop liquid migration.

### 3.9 GENERAL WORK PROCEDURES

- A. The Contractor's Site Supervisor, as the OSHA Competent Person must be at the site at all times during the performance of the work.
- B. All workers and authorized persons must enter and leave the work area through remote decontamination unit, leaving contaminated protective clothing in the airlock for disposal as PCB Remediation Waste.
- C. The Contractor must employ methods to remove PCB-contaminated materials in a manner which minimizes the generation of dust and spread of PCB contamination.

- D. Mechanical cutting or grinding of PCB materials is not permitted unless the equipment has factory-equipped HEPA filtered exhaust and is done in a negative pressure enclosure with HEPA filtration exhaust.
- E. In order to minimize the PCB concentrations inside the work area, the Contractor must remove the materials in manageable sections. In addition, PCB materials removed from any elevated level must be carefully lowered to the floor.
- F. Paint removal using paint stripper must be done using alkaline-based paint removing products. No methylene chloride products are allowed.
- G. The Contractor must properly decontaminate scaffolding, ladders, extension cords, hoses, and other equipment inside the work area via DOUBLE WASH/RINSE METHOD and HEPA vacuuming.
- H. Excavators, trucks, and other construction vehicles must be washed down within the decontamination area constructed by the Contractor.
- I. The Contractor must remove and containerize all visible accumulations of PCB Waste and/or PCB-contaminated debris from within the work areas.
- J. Remove and dispose of any suspect materials observed on the ground.

### 3.10 PCB REMOVAL PROCEDURES – PAINTED COMPONENT REMOVAL

- A. The Contractor's Site Supervisor, as the OSHA Competent Person must be at the site at all times during the performance of the abatement work.
- B. Painted metal components to be impacted by the project must be handled as CTDEEP Regulated PCB materials.
- C. The Contractor must remove all metal equipment and components as PCB materials with concentrations < 50 ppm and transport for scrap / recycling at an approved facility legally capable of receiving and managing painted metal components with PCB concentrations <50 ppm.
- D. The Contractor must employ methods to remove PCB-contaminated wastes in a manner which minimizes the generation of dust and spread of PCB contamination to the ground surface. The Contractor is responsible for all costs associated with decontamination and remediation in the case of improper handling, reckless demolition activities, or general mismanagement of PCB-containing material.
- E. Mechanical cutting or grinding PCB materials is not permitted unless the equipment has factory-equipped HEPA filtered exhaust and is done in a negative air enclosure with HEPA filtration exhaust.
- F. All identified non-porous PCB coated materials (i.e., metal) must be scrapped / recycled in accordance with state and federal regulations.

### 3.11 PCB REMOVAL PROCEDURES – PAINTED POROUS SURFACES

- A. PCB painted porous surfaces to be removed are listed in Table 02840. PCB-contaminated painted porous surfaces to be removed include paint on brick walls, concrete floors/walls/ceilings, and concrete masonry unit (CMU) walls.
- B. Painted porous surfaces that contain PCBs and will be impacted by the Project are to be removed and disposed of as CTDEEP Regulated PCB Waste.

- C. The Contractor must remove and dispose of the entire substrate system with the paint attached if the component is scheduled for demolition and remove all paint if the component is scheduled to remain.
- D. The Contractor may elect to demolish the entire building with PCB-contaminated materials and dispose of it as CTDEEP Regulated PCB Waste. This can only be done after successful removal of PCB Bulk Product Waste (window caulk and adjacent substrates).

### 3.12 PCB REMOVAL PROCEDURES – WINDOW CAULKING

- A. Contractor must know which items are mixed PCBs and asbestos waste. See Section 02820 and the table below.
- B. PCB-contaminated caulking is to be impacted by the project and includes metal window frames and adjacent brick building components.
- C. Caulking scheduled to be demolished must be removed in their entirety. Contractor may elect to remove metal window frames with caulking as PCB Bulk Product Waste. Separation of caulking from window frames is not required, however, waste must be disposed of in accordance with the most stringent regulatory requirements.
- D. Contractor must remove all brick siding in direct contact with and adjacent to the PCB caulking (i.e. entire brick façade) and dispose of it as PCB Bulk Product Waste  $\geq 50$  ppm.
- E. Any other associated materials in contact with the caulking must also be removed and disposed of with the caulk, including but not limited to backer filler.

### 3.13 DUST CONTROL

- A. See Section 02220 – Building Demolition for required dust control measures and sampling provided by Engineer.

### 3.14 DOUBLE WASH/RINSE CLEANING METHOD

- A. The Double Wash/Rinse Cleaning Method is defined in Part 40 CFR 761 Subpart S. The method described below provides a summary of the procedure. Contractor is responsible for ensuring that all decontamination procedures are completed in accordance with Part 40 CFR 761 Subpart S.
- B. First wash. Cover the entire surface with CAPSUR C/S®, an aqueous based solvent system developed specifically for the extraction of PCBs from solid surfaces, follow all manufacturer's instructions for product use. Contain and collect any runoff solvent for disposal. Scrub rough surfaces with a scrub brush or disposable scrubbing pad and solvent such that each 900 cm<sup>2</sup> (1 square foot) of the surface is consistently wet for 1 minute. Wipe smooth surfaces with a solvent-soaked, disposable absorbent pad such that each 900 cm<sup>2</sup> (1 square foot) is wiped for 1 minute. Any surface <1 square foot must also be wiped for 1 minute. Wipe, mop, and/or sorb the solvent using absorbent material until no visible traces of the solvent remain.
- C. First rinse. Wet the surface with clean rinse solvent such that the entire surface is consistently wet for 1 minute. Drain and contain the solvent from the surface. Wipe the residual solvent off the drained surface using a clean, disposable, absorbent pad until no liquid is visible on the surface.
- D. Second wash. Repeat the procedures in paragraph (B) of this section. The rinse solvent from the first rinse paragraph (C) of this section may be used.
- E. Second rinse. Repeat the procedures in paragraph (C) of this section.

### 3.15 CLEANING PROCEDURES

- A. After removal of PCB-contaminated building material in any given work area, cleaning will be performed by the Contractor.
  - 1. Cleaning must also be performed at the end of each workday to prevent the migration of dust or debris to areas beyond work limits.
- B. A thorough final cleaning must be performed on all surfaces using the cleaning methods described in this Section and HEPA filter-equipped vacuums.
- C. Exterior ground surfaces in demolition work areas must be cleaned at the end of each day using wet sweeping or other non-dust generating cleaning procedures.
- D. Final cleaning includes removal of any contaminated material, equipment, or debris (including polyethylene sheeting) from the work area and removal of all visible dusts on surfaces. All polyethylene sheeting must be packaged for disposal as a PCB Remediation Waste.
- E. Special attention must be given to personal hygiene and cleaning of supplies and/or equipment.

### 3.16 DECONTAMINATION OF TOOLS AND EQUIPMENT

- A. The Contractor must construct and maintain an equipment and vehicle decontamination station in a location acceptable to the Engineer. All equipment, vehicles / tires, and tools must be decontaminated within the decontamination station prior to leaving the project site.
- B. The initial decontamination step must include dry removal of accumulated debris and dust, and collection and disposal of residuals generated during the dry removal process. Wet removal via pressure washers or hoses must not be implemented unless the dry removal process yields unacceptable results.
- C. The Contractor must decontaminate all equipment (excavators, grapples, shears, etc.), vehicles / tires, and tools that have been in contact with PCB-contaminated building materials and debris in accordance with Title 40 CFR Part 761.79(c)(2)(i), by swabbing non-porous surfaces with a non-chlorinated organic solvent or use of the Double Wash/Rinse procedure.
- D. Swabbing materials and tools used in the dry removal process (brooms, brushes, etc.) must be disposed of as a solid PCB Remediation Waste.
- E. Liquid wastes associated with PCB removal and/or decontamination must be disposed of as a liquid PCB Remediation Waste.
- F. Contractor must properly containerize, label, and store all wastes generated during the decontamination process in a location acceptable to the Engineer.

### 3.17 ONSITE MANAGEMENT OF PCB WASTES

- A. All solid waste material, used PPE, and other solid wastes generated during the work, must be placed directly in appropriate waste receptacles immediately upon removal from its in-situ position. Suitable waste receptacles may consist of roll-off containers or DOT-approved 55-gallon drums. PCB contaminated demolition debris may be stockpiled and then loaded into trucks.
- B. The Contractor is responsible for all packaging, labeling, transport, disposal, and recordkeeping associated with CTDEEP Regulated PCB Waste, mixed asbestos / PCB Bulk Product Waste, and PCB Remediation Waste, in accordance with all federal, state, and local regulations.

- C. Roll-off containers and truck beds used to contain/haul PCB waste must comply with the following requirements:
  - 1. All roll-off containers or other similar vessels utilized must be watertight and lined with 6-mil poly or equivalent impermeable lining and equipped with a secured and impermeable cover.
  - 2. The impermeable cover must remain securely in place at all times when material is not being actively placed in the vessels. The Contractor must be responsible for ensuring that the cover remains securely intact until the container is removed from the Site.
- D. 55-gallon drums utilized for waste containerization must be DOT-approved, watertight, and free of corrosion, perforations, punctures, or other damage. All drums must be securely covered and sealed at the conclusion of each workday.
- E. The waste containers must remain staged at the site with a secure impermeable cover in-place until the materials are transported from the site to be delivered to the designated waste disposal facility.
- F. Waste roll-off and barrel staging area must be designated prior to initiation of the abatement work and approved by the Engineer.
- G. Non-liquid cleaning materials, PPE and similar materials resulting from decontamination are to be disposed of in accordance with TSCA requirements.
- H. PCB-contaminated liquids generated during decontamination must be decontaminated in accordance with TSCA requirements.
- I. All such materials must be collected, packaged, and labeled by the Contractor for off-site disposal as PCB Waste under a waste manifest and/or bill of lading.
- J. The following materials must be collected, packaged, and labeled by the Contractor for off-site disposal as PCB Remediation Waste.
  - 1. HEPA-vacuum bags and filters containing PCB dusts/debris.
  - 2. Respirator cartridges, scrapers, tarpaulins, suits, polyethylene sheeting, and other materials used for PCB removal.
  - 3. Decontamination and cleaning waste (i.e., rags, swabbing materials, etc.).
- K. The Contractor is responsible for additional analytical testing via the TCLP only to support off-site disposal of PCB waste materials generated during the project.
  - 1. No sampling and/or analysis by the Contractor or affiliates of the Contractor (subcontractors, subconsultants, etc.) for total PCBs may be performed at any point during the performance of the work, except as specifically authorized in writing by the Owner and Engineer.
  - 2. The Contractor is responsible for selecting disposal facilities that can accept PCB wastes with this restriction.
  - 3. Only those disposal facilities that will accept waste based on TCLP analysis may be used.
  - 4. If the Contractor or affiliates of the Contractor (subcontractors, subconsultants, etc.) take unauthorized samples and analyze them for total PCBs, then the contractor will be responsible for the cost of any resulting removal required under existing state and federal regulations triggered by their sampling and analysis.

- L. Provide evidence that all PCB wastes have been received at a legal disposal, recycle, reuse or salvage location.
- M. The means for such proof must be truck weight slips/signed shipping documents from an approved disposal facility.
- N. Transport of all materials off site must be in accordance with applicable DOT Regulations.
- O. All materials leaving the site must become the responsibility of the Contractor.

3.18 MARKING AND DISPOSAL OF PCB WASTES

- A. All waste containers must be marked with the name of the waste contained, the date on which the first material was placed in the vessel, and the last date at which addition of waste occurred. All waste containers must be marked with a large PCB M<sub>L</sub> marker.
- B. All waste containers containing PCB Bulk Product Waste and PCB Remediation Waste in the form of waste and contaminated debris, used PPE, personal and equipment wash water and decontamination fluids, or other wastes generated during the abatement work must be labeled as follows:

DOT Class 9 UN3432 (solid)  
Or UN2315 (liquid) PCB Waste  
RQ  
Waste for Disposal

Federal law prohibits improper disposal.

If found, contact the nearest police or public safety authority or  
The U.S. Environmental Protection Agency.

Generator's Information: \_\_\_\_\_

Manifest Tracking No.: \_\_\_\_\_

Accumulation Start Date: \_\_\_\_\_

EPA ID No.: \_\_\_\_\_

EPA Waste No.: \_\_\_\_\_

Total Weight: \_\_\_\_\_

Container No.: \_\_\_\_\_

HANDLE WITH CARE

- C. In addition, these containers must be marked with a PCB M<sub>L</sub> marker.
- D. Such marking must be durable, in English and printed on, or affixed to the surface of the package, or on a label, tag or sign, and displayed on a background of sharply contrasting color, is unobscured by labels or attachments, and located away from any other marking (such as advertising) that could substantially reduce its effectiveness.
- E. The Contractor is responsible for all packaging, labeling, transport, disposal, and recordkeeping associated with PCB Bulk Product Waste and PCB Remediation Waste in accordance with all federal, state, and local regulations.
- F. The Contractor must ensure that the person transporting the waste holds a valid permit issued in accordance with appropriate federal, state, and local regulations.
- G. The Contractor must provide to the transporter at the time of transfer appropriate shipping records or uniform waste manifests as required by the federal, state, and local regulations with a copy to the Owner and Engineer.

- H. The Contractor must maintain proper follow-up procedures to assure that waste materials have been received by the designated waste site in a timely manner, and in accordance with all federal, state, and local regulations.
- I. All PCB waste must be removed from the site within 30 days of generation.
- J. PCB Bulk Product Waste
  - 1. PCB Bulk Product Waste will be removed and transported off-site for disposal in accordance with Title 40 CFR, Part 761.62(b). PCB Bulk Product Waste will be disposed of in a solid waste facility permitted to accept PCB Bulk Product Waste.
- K. CTDEEP Regulated PCB Waste
  - 1. CTDEEP Regulated PCB Waste will be removed and transported off-site for disposal in accordance with CGS 22a-463 to 22a-469a. CTDEEP Regulated PCB Waste will be disposed of in a solid waste facility permitted to accept CTDEEP Regulated PCB Waste.
- L. Solid PCB Remediation Waste
  - 1. Solid PCB Remediation Waste includes solid waste generated during PCB remediation including, but not limited to, containment barriers, PPE, cleaning supplies, etc.
  - 2. Solid PCB Remediation Waste will be removed and transported off-site for disposal in accordance with Title 40 CFR, Part 761.61(a)(5)(i)(B)(2) at a permitted facility. The disposal facility selected will be permitted as one of the following:
    - a. Hazardous waste facility permitted by EPA under section 3004 of RCRA
    - b. State authorized under section 3006 of RCRA
    - c. A chemical waste facility approved under Title 40 CFR Part 761.75
- M. Liquid PCB Remediation Waste
  - 1. Liquid PCB Remediation Waste for this project is liquid waste generated during PCB remediation including, but not limited to, cleaning wastewater and/or liquid, equipment decontamination wastewater and/or liquid, personal decontamination wastewater and/or liquid, etc.
  - 2. Liquid PCB Remediation Waste will be removed and transported off-site for disposal in accordance with Title 40 CFR Part 761.60(a).
- N. The Owner will be the generator and will sign all waste profiles, bills of lading, and if appropriate and allowed under this specification, a hazardous waste manifest. Draft waste profiles and manifests must be reviewed by Engineer prior to Owner review.
- O. The Contractor is responsible for additional analytical testing via the TCLP only to support off-site disposal of PCB waste materials generated during the project.
- P. Provide evidence that all PCB wastes have been received at a legal disposal, recycle, reuse or salvage location. The means for such proof must be truck weight slips/signed shipping documents from an approved disposal facility. Transportation of all materials off site must be in accordance with applicable DOT Regulations. All materials leaving the site must become the responsibility of the Contractor.

- Q. When the specifications call for the measurement of PCB-contaminated materials for unit pricing, the materials must be segregated from other materials unless otherwise authorized in writing by the Owner and Engineer.
- R. All contaminated waste must be carefully loaded on trucks or other appropriate vehicles for transport. Before and during transport, care must be exercised to ensure that no unauthorized persons have access to the waste materials.
- S. Waste transporters are prohibited from “back hauling” any freight after the PCB waste disposal, until decontamination of the vehicle and/or trailer is assured.

### 3.19 ENGINEER'S POST-REMEDATION VERIFICATION SAMPLING REQUIREMENTS

- A. The Consultant may conduct post-remediation verification sampling following removal of CTDEEP Regulated PCB Waste.
  - 1. The Contractor must anticipate a minimum seven-day turnaround time from the laboratory for scheduling and bidding purposes.

### 3.20 ENGINEER'S INSPECTION RESPONSIBILITIES

- A. The Engineer will conduct inspections throughout the project to document the progress of the work as well as the procedures and practices employed by the Contractor.
- B. The Engineer will perform the following inspections:
  - 1. Pre-commencement Inspection. Pre-commencement inspections will be performed at the time requested by the Contractor. The Engineer will be informed a minimum of 24 hours prior to the time the inspection is needed. If, during the course of the pre-commencement inspection, deficiencies are found, the Contractor must make the necessary adjustments in order to obtain compliance.
  - 2. Work Area Inspections. Work area inspections will be conducted at the discretion of the Engineer. During the course of the work inspections, the Engineer will observe the Contractor's removal means and/or methods, verify barrier integrity, monitor negative air filtration devices, assess project progress, and inform the Contractor of specific remedial activities if deficiencies are noted.
  - 3. Final Visual Inspection. The Engineer will conduct the final visual inspection following the request of the Contractor. The Engineer must be informed a minimum of 24 hours prior to the time the inspection is needed. The final visual inspection must be conducted after completion of the final cleaning procedures. The final visual inspection will verify that all PCB-containing materials and residual debris have been removed from the work area. If, during the course of the inspection, the Engineer identifies residual dust or debris, the Contractor must comply with the request of the Engineer in order to render the area “dust free”.



**TABLE 028400 - LIST OF PCB-CONTAMINATED BUILDING MATERIALS**

<b>PCB-Containing Material</b>	<b>Location(s)</b>	<b>PCB RESULT (PPM)</b>	<b>Approximate Quantity*</b>	<b>Comments</b>
Exterior Window Caulk <sup>(1)</sup>	Center Section – Lower Level – Side C and Center Section – Upper Level – Throughout	<b>13 - 60</b>	850 LF	Must be removed and disposed of mixed Asbestos / PCB Bulk Product Waste $\geq 50$ ppm prior to demolition. Removal and resulting waste includes entire brick façade and metal window frames on each level where this caulk is present.
Exterior Window Caulk <sup>(1)(2)</sup>	Center Section – Lower Level – Side A	<b>ND – 1.7 71 (anomaly)</b>	970 LF	Must be removed and disposed of mixed Asbestos / CTDEEP PCB Waste < 50 ppm and > 1 ppm prior to demolition
Exterior Window and Door Caulk <sup>(1)</sup>	North Wing - Throughout	<b>0.99 – 1.9</b>		Must be removed and disposed of mixed Asbestos / CTDEEP PCB Waste < 50 ppm and > 1 ppm prior to demolition
White Paint on Metal Pan Ceilings	North Wing – Upper Level – Throughout	<b>6 – 49</b>	5,200 SF	May be recycled out of State
White/Green Paint on Metal Doors and Door Frames	Center Section and North Wing – Throughout	<b>5.6 – 21</b>	320 SF, 7 Doors and 18 Door Frames	May be recycled out of State

<b>PCB-Containing Material</b>	<b>Location(s)</b>	<b>PCB RESULT (PPM)</b>	<b>Approximate Quantity*</b>	<b>Comments</b>
Gray/Blue/Yellow/White Paint on Concrete Foundation/Walls	Center Section – Lower Level - Throughout	<b>1.0 – 5.9</b>	Entire North Wing and Center Section (except Stairwell/Lobby adjacent to South Wing)	<p>The building is to be demolished and disposed of as mixed non-friable asbestos / CTDEEP Regulated PCB Waste (&lt; 50 ppm) following interior asbestos abatement, removal of all &gt; 50 ppm PCB Bulk Product Waste, and removal of universal wastes and hazardous/regulated wastes.</p> <p>Note 1: The Contractor may elect to segregate the roofing materials as asbestos waste only.</p> <p>Note 2: Metal components may be segregated during demolition for recycling</p>
White Paint on Concrete Foundation	North Wing – Exterior – Side B	ND		
White/Beige Paint on Wood Doors and Door Frames <sup>(3)</sup>	Center Section – Sides A and C	<b>0.59 – 3.5</b>		
Gray Paint on Metal Window Sashes and Frames <sup>(3)</sup>	Center Section – Throughout	<b>1.1 – 11</b>		
Exterior Door Caulk	Center Section – Throughout	<b>35</b>		
Interior Window Glazing <sup>(2)</sup>	Center Section – Throughout	<b>ND – 3.2</b>		
White Paint on Concrete Ceilings and Walls	Center Section – Lower Level – Throughout and North Wing – Lower Level - Throughout	<b>ND - 5.9</b>		
Exterior Window Glazing <sup>(2)</sup>	Center Section – Throughout	<b>ND – 2.9</b>		
Exterior Window Glazing	North Wing – Throughout	<b>ND – 1.6</b>		

PCB-Containing Material	Location(s)	PCB RESULT (PPM)	Approximate Quantity*	Comments
Red Paint on Concrete Floor	Center Section – Stairwells	<b>5.9 – 6.2</b>	Entire North Wing and Center Section (except Stairwell/Lobby adjacent to South Wing)	The building is to be demolished and disposed of as mixed non-friable asbestos / CTDEEP Regulated PCB Waste (< 50 ppm) following interior asbestos abatement, removal of all > 50 ppm PCB Bulk Product Waste, and removal of universal wastes and hazardous/regulated wastes.  Note 1: The Contractor may elect to segregate the roofing materials as asbestos waste only.  Note 2: Metal components must be segregated during demolition for recycling
White Paint on Gypsum Board Walls	Center Section – Throughout	<b>1.1</b>		
White/Yellow/Red Paint on CMU Walls	Center Section and North Wing – Throughout	<b>3.5 - 20</b>		
White/Light Green Paint on Brick Walls	Center Section – Throughout	<b>7.4 – 8.5</b>		

Approximate quantities included in this Table are provided to establish an order of magnitude for the amount of material that must be abated. Actual quantities may vary. It is the sole responsibility of the Contractor to visit the site, review the Contract Documents and determine the quantities of materials to be removed when developing their Bid.

Legend

PPM = Parts per million

SF = Square Feet; CY = Cubic Yards

**Bold** result indicates materials > 1 ppm; regulated by CTDEEP

**Bold** and italicized result indicates materials ≥ 50 ppm; regulated by EPA

**Assumed** = indicates materials ≥ 50 ppm; regulated by EPA

(1) Material is also Asbestos Containing

(2) Material Previously Sampled by ATC

(3) Material also contains Lead-Based Paint

Appendix A – PCB Laboratory Reports

END OF SECTION

**Tighe&Bond**

**APPENDIX A**



Friday, August 30, 2024

Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: NOTCH ROAD MUNICIPAL CENTER  
SDG ID: GCR47601  
Sample ID#s: CR47601 - CR47621

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller

Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
ME Lab Registration #CT-007  
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003  
NY Lab Registration #11301  
PA Lab Registration #68-03530  
RI Lab Registration #63  
VT Lab Registration #VT11301



Environmental Laboratories, Inc.  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

## Sample Id Cross Reference

August 30, 2024

SDG I.D.: GCR47601

Project ID: NOTCH ROAD MUNICIPAL CENTER

---

Client Id	Lab Id	Matrix
24-0821-PSRC-NY-01	CR47601	BULK
24-0821-PSRC-NY-02	CR47602	BULK
24-0821-PSRC-NY-03	CR47603	BULK
24-0821-PSRC-NY-04	CR47604	BULK
24-0821-PSRC-NY-05	CR47605	BULK
24-0821-PSRC-NY-06	CR47606	BULK
24-0821-PSRC-NY-07	CR47607	BULK
24-0821-PSRC-NY-08	CR47608	BULK
24-0821-PSRC-NY-09	CR47609	BULK
24-0821-PSRC-NY-10	CR47610	BULK
24-0821-PSRC-NY-11	CR47611	BULK
24-0821-PSRC-NY-12	CR47612	BULK
24-0821-PSRC-NY-13	CR47613	BULK
24-0821-PSRC-NY-14	CR47614	BULK
24-0821-PSRC-NY-15	CR47615	BULK
24-0821-PSRC-NY-16	CR47616	BULK
24-0821-PSRC-NY-17	CR47617	BULK
24-0821-PSRC-NY-18	CR47618	BULK
24-0821-PSRC-NY-19	CR47619	CAULK
24-0821-PSRC-NY-20	CR47620	CAULK
24-0821-PSRC-NY-21	CR47621	CAULK



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47601

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1221	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1232	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1242	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1248	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1254	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1260	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1262	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
PCB-1268	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
Total PCBs	ND	580	ug/Kg	2	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	86		%	2	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	88		%	2	08/26/24	SC	30 - 150 %
% TCMX	92		%	2	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	90		%	2	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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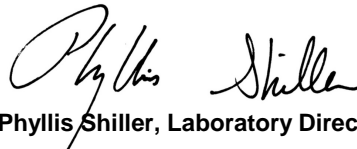
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: BULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

## Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47602

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1221	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1232	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1242	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1248	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1254	49000	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1260	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1262	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
PCB-1268	ND	3900	ug/Kg	10	08/26/24	SC	SW8082A
Total PCBs	49000	3900	ug/Kg	10	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	117		%	10	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	Interference		%	10	08/26/24	SC	30 - 150 %
% TCMX	83		%	10	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	95		%	10	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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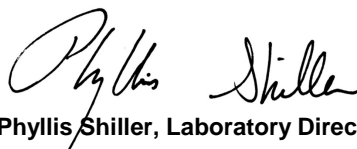
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: BULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

## Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47603

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1221	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1232	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1242	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1248	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1254	15000	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1260	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1262	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
PCB-1268	ND	3400	ug/Kg	10	08/27/24	SC	SW8082A
Total PCBs	15000	3400	ug/Kg	10	08/27/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	104		%	10	08/27/24	SC	30 - 150 %
% DCBP (Confirmation)	109		%	10	08/27/24	SC	30 - 150 %
% TCMX	107		%	10	08/27/24	SC	30 - 150 %
% TCMX (Confirmation)	105		%	10	08/27/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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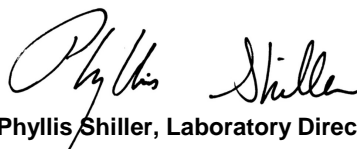
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: BULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

## Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47604

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1221	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1232	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1242	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1248	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1254	21000	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1260	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1262	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1268	ND	2200	ug/Kg	5	08/26/24	SC	SW8082A
Total PCBs	21000	2200	ug/Kg	5	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	134		%	5	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	132		%	5	08/26/24	SC	30 - 150 %
% TCMX	81		%	5	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	77		%	5	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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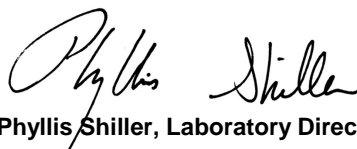
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47605

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1221	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1232	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1242	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1248	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1254	5600	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1260	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1262	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1268	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
Total PCBs	5600	480	ug/Kg	1	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	55		%	1	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	52		%	1	08/26/24	SC	30 - 150 %
% TCMX	61		%	1	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	57		%	1	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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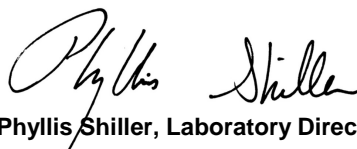
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





**Environmental Laboratories, Inc.**

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Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47606

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1221	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1232	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1242	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1248	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1254	5900	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1260	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1262	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1268	ND	490	ug/Kg	1	08/26/24	SC	SW8082A
Total PCBs	5900	490	ug/Kg	1	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	52		%	1	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	47		%	1	08/26/24	SC	30 - 150 %
% TCMX	55		%	1	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	50		%	1	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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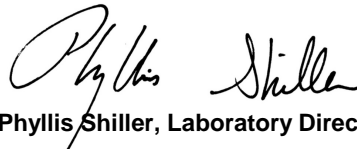
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

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Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47607

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1221	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1232	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1242	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1248	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1254	6200	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1260	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1262	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1268	ND	490	ug/Kg	1	08/27/24	SC	SW8082A
Total PCBs	6200	490	ug/Kg	1	08/27/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	59		%	1	08/27/24	SC	30 - 150 %
% DCBP (Confirmation)	64		%	1	08/27/24	SC	30 - 150 %
% TCMX	49		%	1	08/27/24	SC	30 - 150 %
% TCMX (Confirmation)	58		%	1	08/27/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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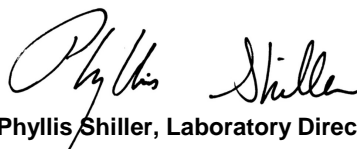
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47608

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1221	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1232	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1242	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1248	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1254	1100	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1260	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1262	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1268	ND	480	ug/Kg	1	08/26/24	SC	SW8082A
Total PCBs	1100	480	ug/Kg	1	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	52		%	1	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	49		%	1	08/26/24	SC	30 - 150 %
% TCMX	58		%	1	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	55		%	1	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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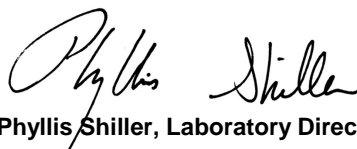
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47609

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1221	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1232	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1242	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1248	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1254	3500	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1260	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1262	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1268	ND	480	ug/Kg	1	08/27/24	SC	SW8082A
Total PCBs	3500	480	ug/Kg	1	08/27/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	50		%	1	08/27/24	SC	30 - 150 %
% DCBP (Confirmation)	47		%	1	08/27/24	SC	30 - 150 %
% TCMX	50		%	1	08/27/24	SC	30 - 150 %
% TCMX (Confirmation)	49		%	1	08/27/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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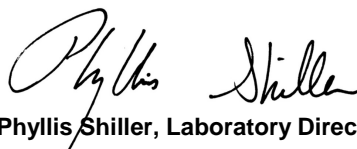
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QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

## Sample Information

Matrix: BULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

## Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

## Date

08/21/24  
 08/23/24

## Time

16:00  
 12:45

## Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47610

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1221	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1232	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1242	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1248	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1254	5900	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1260	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1262	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1268	ND	2300	ug/Kg	5	08/28/24	SC	SW8082A
Total PCBs	5900	2300	ug/Kg	5	08/28/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	73		%	5	08/28/24	SC	30 - 150 %
% DCBP (Confirmation)	78		%	5	08/28/24	SC	30 - 150 %
% TCMX	75		%	5	08/28/24	SC	30 - 150 %
% TCMX (Confirmation)	73		%	5	08/28/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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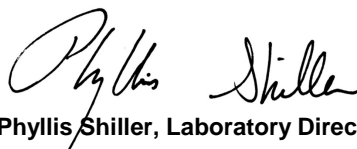
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

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 Tel. (860) 645-1102 Fax (860) 645-0823

**Analysis Report**

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: BULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47611

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1221	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1232	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1242	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1248	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1254	8500	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1260	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1262	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
PCB-1268	ND	6900	ug/Kg	20	08/27/24	SC	SW8082A
Total PCBs	8500	6900	ug/Kg	20	08/27/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	119		%	20	08/27/24	SC	30 - 150 %
% DCBP (Confirmation)	110		%	20	08/27/24	SC	30 - 150 %
% TCMX	105		%	20	08/27/24	SC	30 - 150 %
% TCMX (Confirmation)	117		%	20	08/27/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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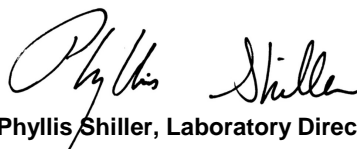
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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

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Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47612

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1221	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1232	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1242	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1248	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1254	7400	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1260	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1262	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
PCB-1268	ND	2400	ug/Kg	5	08/26/24	SC	SW8082A
Total PCBs	7400	2400	ug/Kg	5	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	82		%	5	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	78		%	5	08/26/24	SC	30 - 150 %
% TCMX	80		%	5	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	77		%	5	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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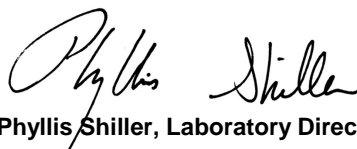
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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

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Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47613

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-13

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1221	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1232	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1242	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1248	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1254	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1260	4800	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1262	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
PCB-1268	ND	2000	ug/Kg	5	08/28/24	SC	SW8082A
Total PCBs	4800	2000	ug/Kg	5	08/28/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	75		%	5	08/28/24	SC	30 - 150 %
% DCBP (Confirmation)	84		%	5	08/28/24	SC	30 - 150 %
% TCMX	81		%	5	08/28/24	SC	30 - 150 %
% TCMX (Confirmation)	81		%	5	08/28/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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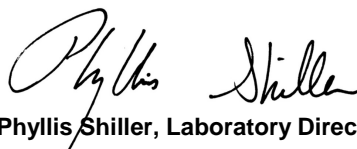
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





**Environmental Laboratories, Inc.**

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Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47614

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-14

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1221	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1232	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1242	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1248	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1254	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1260	1000	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1262	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
PCB-1268	ND	800	ug/Kg	2	08/27/24	SC	SW8082A
Total PCBs	1000	800	ug/Kg	2	08/27/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	79		%	2	08/27/24	SC	30 - 150 %
% DCBP (Confirmation)	88		%	2	08/27/24	SC	30 - 150 %
% TCMX	77		%	2	08/27/24	SC	30 - 150 %
% TCMX (Confirmation)	86		%	2	08/27/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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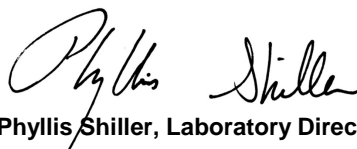
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47615

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-15

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1221	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1232	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1242	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1248	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1254	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1260	3500	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1262	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
PCB-1268	ND	440	ug/Kg	1	08/26/24	SC	SW8082A
Total PCBs	3500	440	ug/Kg	1	08/26/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	54		%	1	08/26/24	SC	30 - 150 %
% DCBP (Confirmation)	52		%	1	08/26/24	SC	30 - 150 %
% TCMX	58		%	1	08/26/24	SC	30 - 150 %
% TCMX (Confirmation)	55		%	1	08/26/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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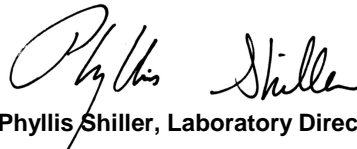
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QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: BULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

## Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47616

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-16

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/23/24	R/PL	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1221	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1232	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1242	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1248	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1254	590	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1260	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1262	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
PCB-1268	ND	430	ug/Kg	1	08/27/24	SC	SW8082A
Total PCBs	590	430	ug/Kg	1	08/27/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	59		%	1	08/27/24	SC	30 - 150 %
% DCBP (Confirmation)	68		%	1	08/27/24	SC	30 - 150 %
% TCMX	48		%	1	08/27/24	SC	30 - 150 %
% TCMX (Confirmation)	61		%	1	08/27/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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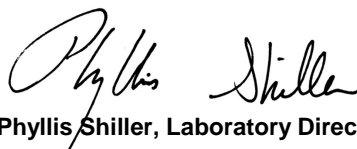
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

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Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47617

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-17

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/27/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1221	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1232	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1242	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1248	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1254	1100	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1260	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1262	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1268	ND	990	ug/Kg	2	08/29/24	SC	SW8082A
Total PCBs	1100	990	ug/Kg	2	08/29/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	78		%	2	08/29/24	SC	30 - 150 %
% DCBP (Confirmation)	79		%	2	08/29/24	SC	30 - 150 %
% TCMX	72		%	2	08/29/24	SC	30 - 150 %
% TCMX (Confirmation)	73		%	2	08/29/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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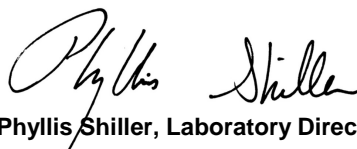
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

08/21/24  
08/23/24

Time

16:00  
12:45

## Laboratory Data

SDG ID: GCR47601  
Phoenix ID: CR47618

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0821-PSRC-NY-18

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				08/27/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1221	ND	930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1232	ND	930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1242	ND	930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1248	*	* 930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1254	11000	* 930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1260	*	* 930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1262	ND	930	ug/Kg	2	08/29/24	SC	SW8082A
PCB-1268	ND	930	ug/Kg	2	08/29/24	SC	SW8082A
Total PCBs	11000	930	ug/Kg	2	08/29/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	72		%	2	08/29/24	SC	30 - 150 %
% DCBP (Confirmation)	74		%	2	08/29/24	SC	30 - 150 %
% TCMX	70		%	2	08/29/24	SC	30 - 150 %
% TCMX (Confirmation)	70		%	2	08/29/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

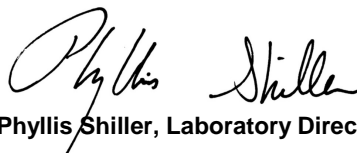
Results are reported on an ``as received`` basis, and are not corrected for dry weight.

**PCB Comment:**

\* For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no longer recognizable, quantitation may be performed by comparing the total area of the PCB pattern to that of the aroclor it mostly resembles. The PCB pattern did not resemble any of the standards, but most closely resembles a mixture of the Aroclors 1248 and 1254 and 1260. The PCB is quantitated as a timed group and is reported as the Aroclor 1254.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

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**Analysis Report**

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: CAULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47619

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-19

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				08/27/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1221	ND	4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1232	ND	4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1242	ND	4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1248	*	* 4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1254	35000	* 4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1260	*	* 4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1262	ND	4500	ug/Kg	10	08/29/24	SC	SW8082A
PCB-1268	ND	4500	ug/Kg	10	08/29/24	SC	SW8082A
Total PCBs	35000	4500	ug/Kg	10	08/29/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	74		%	10	08/29/24	SC	30 - 150 %
% DCBP (Confirmation)	77		%	10	08/29/24	SC	30 - 150 %
% TCMX	67		%	10	08/29/24	SC	30 - 150 %
% TCMX (Confirmation)	68		%	10	08/29/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**PCB Comment:**

\* For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no longer recognizable, quantitation may be performed by comparing the total area of the PCB pattern to that of the aroclor it mostly resembles. The PCB pattern did not resemble any of the standards, but most closely resembles a mixture of the Aroclors 1248 and 1254 and 1260. The PCB is quantitated as a timed group and is reported as the Aroclor 1254.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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**Analysis Report**

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: CAULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47620

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-20

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				08/27/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1221	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1232	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1242	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1248	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1254	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1260	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1262	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1268	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
Total PCBs	ND	580	ug/Kg	2	08/28/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	57		%	2	08/28/24	SC	30 - 150 %
% DCBP (Confirmation)	65		%	2	08/28/24	SC	30 - 150 %
% TCMX	52		%	2	08/28/24	SC	30 - 150 %
% TCMX (Confirmation)	52		%	2	08/28/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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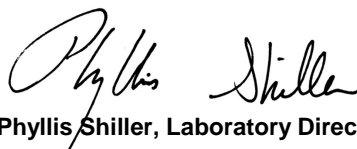
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



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 Tel. (860) 645-1102 Fax (860) 645-0823

# Analysis Report

August 30, 2024

FOR: Attn: James Webb  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: CAULK  
 Location Code: TIGHE  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

08/21/24  
 08/23/24

Time

16:00  
 12:45

## Laboratory Data

SDG ID: GCR47601  
 Phoenix ID: CR47621

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0821-PSRC-NY-21

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				08/27/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1221	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1232	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1242	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1248	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1254	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1260	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1262	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
PCB-1268	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
Total PCBs	ND	900	ug/Kg	2	08/28/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	60		%	2	08/28/24	SC	30 - 150 %
% DCBP (Confirmation)	62		%	2	08/28/24	SC	30 - 150 %
% TCMX	53		%	2	08/28/24	SC	30 - 150 %
% TCMX (Confirmation)	52		%	2	08/28/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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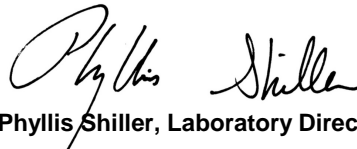
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**August 30, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102

# QA/QC Report

August 30, 2024

## QA/QC Data

SDG I.D.: GCR47601

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 746551 (ug/Kg), QC Sample No: CR41385 10X (CR47617, CR47618, CR47619, CR47620, CR47621)										
<b>Polychlorinated Biphenyls - Bulk</b>										
PCB-1016	ND	170	92	99	7.3				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	93	100	7.3				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	94	%	98	104	5.9				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	98	%	101	106	4.8				30 - 150	30
% TCMX (Surrogate Rec)	89	%	91	98	7.4				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	88	%	93	98	5.2				30 - 150	30
Comment: A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.										
QA/QC Batch 746155 (ug/Kg), QC Sample No: CR46585 10X (CR47601, CR47602, CR47603, CR47604, CR47605, CR47606, CR47607, CR47608, CR47609, CR47610, CR47611, CR47612, CR47613, CR47614, CR47615, CR47616)										
<b>Polychlorinated Biphenyls - Bulk</b>										
PCB-1016	ND	170	111	110	0.9				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	106	105	0.9				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	91	%	107	107	0.0				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	99	%	114	114	0.0				30 - 150	30
% TCMX (Surrogate Rec)	91	%	100	100	0.0				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	91	%	102	102	0.0				30 - 150	30
Comment: A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.										

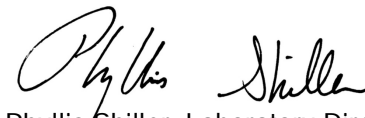
# QA/QC Data

SDG I.D.: GCR47601

Parameter	Blk		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
	Blank	RL								

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference
- (ISO) - Isotope Dilution



Phyllis Shiller, Laboratory Director  
August 30, 2024

Criteria: None

State: CT

# Sample Criteria Exceedances Report

GCR47601 - TIGHE

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR47602	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	49000	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	49000	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47602	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	3900	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	15000	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	15000	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47603	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	3400	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	21000	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	21000	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47604	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	2200	1000	1000	ug/Kg
CR47605	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	5600	480	1000	1000	ug/Kg
CR47605	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	5600	480	1000	1000	ug/Kg
CR47606	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	5900	490	1000	1000	ug/Kg
CR47606	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	5900	490	1000	1000	ug/Kg
CR47607	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	6200	490	1000	1000	ug/Kg
CR47607	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	6200	490	1000	1000	ug/Kg
CR47608	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1100	480	1000	1000	ug/Kg

Friday, August 30, 2024

Criteria: None

State: CT

# Sample Criteria Exceedances Report

GCR47601 - TIGHE

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR47608	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1100	480	1000	1000	ug/Kg
CR47609	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	3500	480	1000	1000	ug/Kg
CR47609	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	3500	480	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	5900	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	5900	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47610	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	2300	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	8500	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	8500	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47611	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	6900	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	7400	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	7400	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47612	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	2400	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	4800	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	4800	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg

Friday, August 30, 2024

Criteria: None

State: CT

## Sample Criteria Exceedances Report

GCR47601 - TIGHE

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR47613	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg
CR47613	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	ND	2000	1000	1000	ug/Kg
CR47615	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	3500	440	1000	1000	ug/Kg
CR47615	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	3500	440	1000	1000	ug/Kg
CR47617	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1100	990	1000	1000	ug/Kg
CR47617	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1100	990	1000	1000	ug/Kg
CR47618	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	11000	930	1000	1000	ug/Kg
CR47618	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	11000	930	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	35000	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	*	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	35000	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	*	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	4500	1000	1000	ug/Kg
CR47619	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	4500	1000	1000	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.





**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

August 30, 2024

SDG I.D.: GCR47601

### PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**AU-ECD1 08/27/24-1** Saadia Chudary, Chemist 08/27/24

CR47603 (10X), CR47607 (1X), CR47613 (5X), CR47614 (2X), CR47616 (1X)

The initial calibration (PC0809AI) RSD for the compound list was less than 20% except for the following compounds: None.  
The initial calibration (PC0809BI) RSD for the compound list was less than 20% except for the following compounds: None.  
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

**AU-ECD1 08/29/24-1** Saadia Chudary, Chemist 08/29/24

CR47617 (2X), CR47618 (2X), CR47619 (10X)

The initial calibration (PC0809AI) RSD for the compound list was less than 20% except for the following compounds: None.  
The initial calibration (PC0809BI) RSD for the compound list was less than 20% except for the following compounds: None.  
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

**AU-ECD24 08/26/24-1** Saadia Chudary, Chemist 08/26/24

CR47601 (2X), CR47602 (10X), CR47604 (5X), CR47605 (1X), CR47606 (1X), CR47608 (1X), CR47609 (1X), CR47611 (20X), CR47612 (5X), CR47615 (1X)

The initial calibration (PC0805AI) RSD for the compound list was less than 20% except for the following compounds: None.  
The initial calibration (PC0805BI) RSD for the compound list was less than 20% except for the following compounds: None.  
The continuing calibration %D for the compound list was less than 15% except for the following compounds:

Samples: CR47601, CR47602, CR47604, CR47605, CR47608

Preceding CC 826B015 - PCB 1016 -18%L (%)

Succeeding CC 826B029 - None.

Samples: CR47611

Preceding CC 826B042 - None.

Succeeding CC 826B048 - PCB 1016 -18%L (%)

**AU-ECD7 08/28/24-1** Phyllis Shiller, Chemist 08/28/24

CR47610 (5X), CR47620 (2X), CR47621 (2X)

The initial calibration (PC0813AI) RSD for the compound list was less than 20% except for the following compounds: None.  
The initial calibration (PC0813BI) RSD for the compound list was less than 20% except for the following compounds: None.  
The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

#### QC (Batch Specific):

##### **Batch 746155 (CR46585)**

CR47601, CR47602, CR47603, CR47604, CR47605, CR47606, CR47607, CR47608, CR47609, CR47610, CR47611, CR47612, CR47613, CR47614, CR47615, CR47616

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

##### **Batch 746551 (CR41385)**

CR47617, CR47618, CR47619, CR47620, CR47621

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.



**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

August 30, 2024

SDG I.D.: GCR47601

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### ***PCB Narration***

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

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### ***Temperature Narration***

The samples were received at 2.1C with cooling initiated.  
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



2.1 wwp

## PCB SOURCE SAMPLE CHAIN OF CUSTODY

Tighe&amp;Bond

Project Number: 11-5178-0001

Date: 8/22/2024

Project Name: Notch Road Municipal Center

1 of 2

Site Address: 104 Notch Road, Bolton, CT

Project Manager: James Webb

Sample ID	Material	Color	Substrate	Sample Location	Date Collected	Notes
24-0821-PSRC-NY-01	Ceiling Paint	White	Concrete	Center Section - Lower Level Corridor	8/21/2024	47601
24-0821-PSRC-NY-02	Ceiling Paint	White	Metal	North Wing - Upper Level - Staff Room	8/21/2024	47602
24-0821-PSRC-NY-03	Ceiling Paint	White	Metal	North Wing - Upper Level - Room 12	8/21/2024	47603
24-0821-PSRC-NY-04	Door Frame Paint	White/Green	Metal	North Wing - Upper Level - Staff Room	8/21/2024	47604
24-0821-PSRC-NY-05	Door Paint	White/Green	Metal	Center Section - Lower Level Stair (Right)	8/21/2024	47605
24-0821-PSRC-NY-06	Floor Paint	Red	Concrete	Center Section - Lower Level Stair (Right)	8/21/2024	47606
24-0821-PSRC-NY-07	Floor Paint	Red	Concrete	Center Section - Lower Level Stair (Left)	8/21/2024	47607
24-0821-PSRC-NY-08	Wall Paint	White	Gypsum Board	Center Section - Upper Level Room 9	8/21/2024	47608
24-0821-PSRC-NY-09	Wall Paint	White/Yellow/Red	CMU	Center Section - Lower Level Corridor	8/21/2024	47609
24-0821-PSRC-NY-10	Wall Paint	White/Yellow	Concrete	North Wing - Lower Level - Church	8/21/2024	47610
24-0821-PSRC-NY-11	Wall Paint	Light Green	Brick	Center Section - Lower Level Custodial/Storage	8/21/2024	47611
24-0821-PSRC-NY-12	Wall Paint	White/Light Green	Brick	Center Section - Upper Level Room 10	8/21/2024	<del>47612</del> 47612
24-0821-PSRC-NY-13	Foundation Paint	Gray/Blue/Yellow	Concrete	Exterior - Side A	8/21/2024	47613
24-0821-PSRC-NY-14	Foundation Paint	Gray/Blue/Yellow	Concrete	Exterior - Side A	8/21/2024	47614
24-0821-PSRC-NY-15	Door/Door Frame Paint	White/Beige	Wood	Exterior - Side A	8/21/2024	47615
24-0821-PSRC-NY-16	Door/Door Frame Paint	White/Beige/Green	Wood	Exterior - Side C	8/21/2024	47616
24-0821-PSRC-NY-17	Window Paint	Gray	Metal	Exterior - Side A	8/21/2024	47617
24-0821-PSRC-NY-18	Window Paint	Gray	Metal	Exterior - Side A	8/21/2024	47618
24-0821-PSRC-NY-19	Door Caulk	Dark Gray	Wood/Brick	Exterior - Side A	8/21/2024	47619
24-0821-PSRC-NY-20	Door Caulk	Light Gray	Metal/Brick	Exterior - Side C	8/21/2024	47620
24-0821-PSRC-NY-21	Expansion Joint Caulk	Light Gray	Brick	Exterior - Side C	8/21/2024	47621

GCR 47601

2-1-11

**PCB SOURCE SAMPLE CHAIN OF CUSTODY**

**Tighe&Bond**

Project Number: 11-5178-0001 Date: 8/22/2024  
 Project Name: Notch Road Municipal Center 2 of 2  
 Site Address: 104 Notch Road, Bolton, CT  
 Project Manager: James Webb

Sample ID	Material	Color	Substrate	Sample Location	Date Collected	Notes
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**Analysis Method:** EPA Method 3500B/3540C (extraction), EPA Method 8082 (analysis) **Laboratory:** Phoenix **Turnaround Time:** Standard

**Email PDF of Results to:** JTWebb@tighebond.com **Reporting Limit:** <1 ppm

**Special Instructions:**

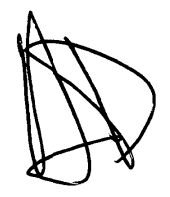
**Samples Collected By:** Nathan Yergeau **Date:** 8/21/2024 **Time:** 4:00 PM

**Relinquished [By][To]:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Relinquished [By][To]:** [Signature] \_\_\_\_\_ **Date:** 08/23/2024 **Time:** \_\_\_\_\_

**Relinquished [By][To]:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

*Handwritten:* Aaron Dilagey 8/23/24 11:20 *Signature* 8/23/24 12:45





Thursday, September 19, 2024

Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: NOTCH ROAD MUNICIPAL CENTER  
SDG ID: GCR63939  
Sample ID#s: CR63939 - CR63946

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller

Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
ME Lab Registration #CT-007  
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003  
NY Lab Registration #11301  
PA Lab Registration #68-03530  
RI Lab Registration #63  
VT Lab Registration #VT11301



Environmental Laboratories, Inc.  
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Tel. (860) 645-1102 Fax (860) 645-0823

## Sample Id Cross Reference

September 19, 2024

SDG I.D.: GCR63939

Project ID: NOTCH ROAD MUNICIPAL CENTER

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Client Id	Lab Id	Matrix
24-0913-PSRC-NY-01	CR63939	CAULK
24-0913-PSRC-NY-02	CR63940	CAULK
24-0913-PSRC-NY-03	CR63941	CAULK
24-0913-PSRC-NY-04	CR63942	CAULK
24-0913-PSRC-NY-05	CR63943	CAULK
24-0913-PSRC-NY-06	CR63944	CAULK
24-0913-PSRC-NY-07	CR63945	BULK
24-0913-PSRC-NY-08	CR63946	BULK



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 19, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: 48 Hour  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63939  
Phoenix ID: CR63939

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-01

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	ND	730	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	111		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	91		%	2	09/17/24	SC	30 - 150 %
% TCMX	89		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	88		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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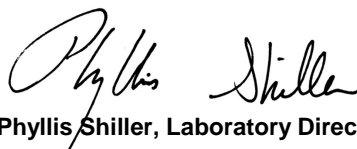
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 19, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: 48 Hour  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63939  
Phoenix ID: CR63940

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-02

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	1700	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	1700	740	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	61		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	81		%	2	09/17/24	SC	30 - 150 %
% TCMX	73		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	71		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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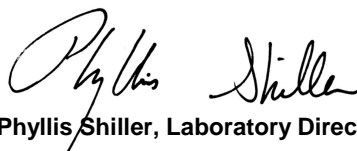
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 19, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: 48 Hour  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63939  
Phoenix ID: CR63941

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-03

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	1400	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	770	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	1400	770	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	66		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	85		%	2	09/17/24	SC	30 - 150 %
% TCMX	69		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	66		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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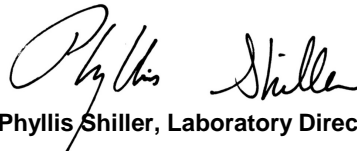
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 19, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: 48 Hour  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63939  
Phoenix ID: CR63942

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-04

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	1900	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	630	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	1900	630	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	61		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	50		%	2	09/17/24	SC	30 - 150 %
% TCMX	53		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	51		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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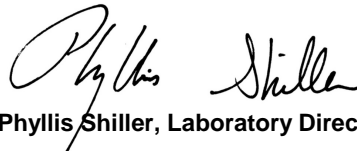
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 19, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: 48 Hour  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63939  
Phoenix ID: CR63943

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-05

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	1500	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	740	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	1500	740	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	65		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	53		%	2	09/17/24	SC	30 - 150 %
% TCMX	51		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	55		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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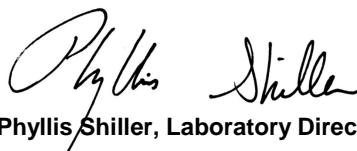
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 19, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: 48 Hour  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63939  
Phoenix ID: CR63944

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-06

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	990	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	580	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	990	580	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	78		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	53		%	2	09/17/24	SC	30 - 150 %
% TCMX	66		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	64		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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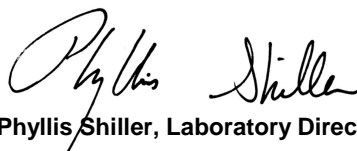
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**





**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 19, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE-DAS  
Rush Request: 48 Hour  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63939  
Phoenix ID: CR63945

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-07

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	ND	700	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	88		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	63		%	2	09/17/24	SC	30 - 150 %
% TCMX	83		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	77		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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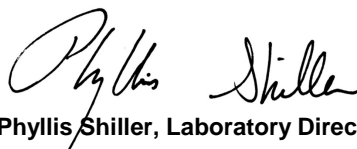
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

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**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102

**Analysis Report**  
 September 19, 2024

FOR: Attn: Harley Langford  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: BULK  
 Location Code: TIGHE-DAS  
 Rush Request: 48 Hour  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

09/13/24  
 09/16/24

Time

15:00  
 15:20

Laboratory Data

SDG ID: GCR63939  
 Phoenix ID: CR63946

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0913-PSRC-NY-08

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				09/16/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1221	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1232	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1242	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1248	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1254	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1260	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1262	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
PCB-1268	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
Total PCBs	ND	720	ug/Kg	2	09/17/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	78		%	2	09/17/24	SC	30 - 150 %
% DCBP (Confirmation)	65		%	2	09/17/24	SC	30 - 150 %
% TCMX	76		%	2	09/17/24	SC	30 - 150 %
% TCMX (Confirmation)	80		%	2	09/17/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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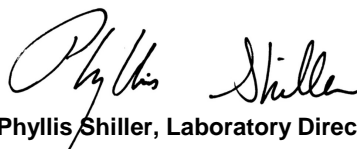
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**September 19, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102

# QA/QC Report

September 19, 2024

## QA/QC Data

SDG I.D.: GCR63939


Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 749311 (ug/Kg), QC Sample No: CR63943 10X (CR63939, CR63940, CR63941, CR63942, CR63943, CR63944, CR63945, CR63946)										
<b>Polychlorinated Biphenyls - Bulk</b>										
PCB-1016		ND 170	125	118	5.8				40 - 140	30
PCB-1221		ND 170							40 - 140	30
PCB-1232		ND 170							40 - 140	30
PCB-1242		ND 170							40 - 140	30
PCB-1248		ND 170							40 - 140	30
PCB-1254		ND 170							40 - 140	30
PCB-1260		ND 170	118	118	0.0				40 - 140	30
PCB-1262		ND 170							40 - 140	30
PCB-1268		ND 170							40 - 140	30
% DCBP (Surrogate Rec)	110	%	124	117	5.8				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	109	%	123	115	6.7				30 - 150	30
% TCMX (Surrogate Rec)	99	%	110	103	6.6				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	98	%	110	103	6.6				30 - 150	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Intf - Interference
- (ISO) - Isotope Dilution

  
 Phyllis Shiller, Laboratory Director  
 September 19, 2024

Thursday, September 19, 2024

Criteria: None

State: CT

## Sample Criteria Exceedances Report

GCR63939 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR63940	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1700	740	1000	1000	ug/Kg
CR63940	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	1700	740	1000	1000	ug/Kg
CR63941	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1400	770	1000	1000	ug/Kg
CR63941	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	1400	770	1000	1000	ug/Kg
CR63942	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1900	630	1000	1000	ug/Kg
CR63942	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1900	630	1000	1000	ug/Kg
CR63943	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1500	740	1000	1000	ug/Kg
CR63943	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1500	740	1000	1000	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.





**Environmental Laboratories, Inc.**  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823



## RCP Certification Report

September 19, 2024

SDG I.D.: GCR63939

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### **PCB Narration**

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### **Instrument:**

**AU-ECD24 09/17/24-1** Saadia Chudary, Chemist 09/17/24

CR63939 (2X)

The initial calibration (PC0909AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC0909BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds:

Samples: CR63939

Preceding CC 917B034 - None.

Succeeding CC 917B047 - DCPB SURR 21%H (20%), PCB 1260 35%H (%)

**AU-ECD91 09/17/24-1** Saadia Chudary, Chemist 09/17/24

CR63940 (2X), CR63941 (2X), CR63942 (2X), CR63943 (2X), CR63944 (2X), CR63945 (2X), CR63946 (2X)

The initial calibration (PC0711AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC0711BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 15% except for the following compounds:None.

#### **QC (Batch Specific):**

##### **Batch 749311 (CR63943)**

CR63939, CR63940, CR63941, CR63942, CR63943, CR63944, CR63945, CR63946

All LCS recoveries were within 40 - 140 with the following exceptions: None.

All LCSD recoveries were within 40 - 140 with the following exceptions: None.

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

---

### **Temperature Narration**

The samples were received at 2.3C with cooling initiated.

(Note acceptance criteria for relevant matrices is above freezing up to 6°C)







Wednesday, September 25, 2024

Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Project ID: NOTCH ROAD MUNICIPAL CENTER  
SDG ID: GCR63947  
Sample ID#s: CR63947 - CR63957

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

A handwritten signature in black ink that reads "Phyllis Shiller". The signature is written in a cursive style.

Phyllis Shiller

Laboratory Director

NELAC - #NY11301  
CT Lab Registration #PH-0618  
MA Lab Registration #M-CT007  
ME Lab Registration #CT-007  
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003  
NY Lab Registration #11301  
PA Lab Registration #68-03530  
RI Lab Registration #63  
VT Lab Registration #VT11301



Environmental Laboratories, Inc.  
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102 Fax (860) 645-0823

## Sample Id Cross Reference

September 25, 2024

SDG I.D.: GCR63947

Project ID: NOTCH ROAD MUNICIPAL CENTER

---

Client Id	Lab Id	Matrix
24-0913-PSRC-NY-09	CR63947	CAULK
24-0913-PSRC-NY-10	CR63948	CAULK
24-0913-PSRC-NY-11	CR63949	CAULK
24-0913-PSRC-NY-12	CR63950	CAULK
24-0913-PSRC-NY-13	CR63951	CAULK
24-0913-PSRC-NY-14	CR63952	CAULK
24-0913-PSRC-NY-15	CR63953	BULK
24-0913-PSRC-NY-16	CR63954	BULK
24-0913-PSRC-NY-17	CR63955	BULK
24-0913-PSRC-NY-18	CR63956	BULK
24-0913-PSRC-NY-19	CR63957	BULK



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63947

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-09

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1221	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1232	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1242	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1248	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1254	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1260	60000	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1262	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
PCB-1268	ND	9300	ug/Kg	20	09/19/24	SC	SW8082A
Total PCBs	60000	9300	ug/Kg	20	09/19/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	94		%	20	09/19/24	SC	30 - 150 %
% DCBP (Confirmation)	86		%	20	09/19/24	SC	30 - 150 %
% TCMX	71		%	20	09/19/24	SC	30 - 150 %
% TCMX (Confirmation)	71		%	20	09/19/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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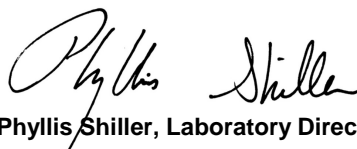
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63948

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-10

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1221	ND	8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1232	ND	8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1242	ND	8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1248	ND	8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1254	49000	* 8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1260	*	* 8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1262	ND	8600	ug/Kg	20	09/21/24	SC	SW8082A
PCB-1268	ND	8600	ug/Kg	20	09/21/24	SC	SW8082A
Total PCBs	49000	8600	ug/Kg	20	09/21/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	96		%	20	09/21/24	SC	30 - 150 %
% DCBP (Confirmation)	100		%	20	09/21/24	SC	30 - 150 %
% TCMX	81		%	20	09/21/24	SC	30 - 150 %
% TCMX (Confirmation)	81		%	20	09/21/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

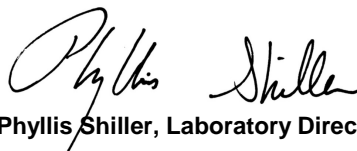
Results are reported on an ``as received`` basis, and are not corrected for dry weight.

**PCB Comment:**

\* For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no longer recognizable, quantitation may be performed by comparing the total area of the PCB pattern to that of the aroclor it mostly resembles. The PCB pattern did not resemble any of the standards, but most closely resembles a mixture of the Aroclors 1254 and 1260. The PCB is quantitated as a timed group and is reported as the Aroclor 1254.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

# Analysis Report

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

## Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63949

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-11

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1221	ND	970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1232	ND	970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1242	ND	970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1248	*	* 970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1254	13000	* 970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1260	*	* 970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1262	ND	970	ug/Kg	2	09/21/24	SC	SW8082A
PCB-1268	ND	970	ug/Kg	2	09/21/24	SC	SW8082A
Total PCBs	13000	970	ug/Kg	2	09/21/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	79		%	2	09/21/24	SC	30 - 150 %
% DCBP (Confirmation)	81		%	2	09/21/24	SC	30 - 150 %
% TCMX	68		%	2	09/21/24	SC	30 - 150 %
% TCMX (Confirmation)	70		%	2	09/21/24	SC	30 - 150 %



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

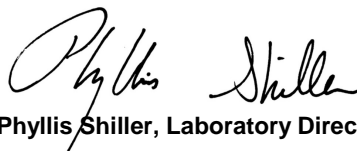
Results are reported on an ``as received`` basis, and are not corrected for dry weight.

**PCB Comment:**

\* For PCBs, as per section 11.9.3 of SW846 method 8082, when multiple Aroclor's of PCBs are present and the aroclor is no longer recognizable, quantitation may be performed by comparing the total area of the PCB pattern to that of the aroclor it mostly resembles. The PCB pattern did not resemble any of the standards, but most closely resembles a mixture of the Aroclors 1248 and 1254 and 1260. The PCB is quantitated as a timed group and is reported as the Aroclor 1254.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63950

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-12

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1221	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1232	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1242	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1248	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1254	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1260	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1262	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1268	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
Total PCBs	ND	770	ug/Kg	2	09/19/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	85		%	2	09/19/24	SC	30 - 150 %
% DCBP (Confirmation)	73		%	2	09/19/24	SC	30 - 150 %
% TCMX	58		%	2	09/19/24	SC	30 - 150 %
% TCMX (Confirmation)	59		%	2	09/19/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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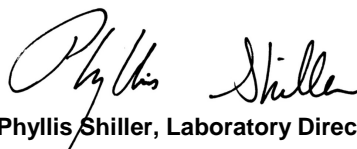
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

**Comments:**

Results are reported on an ``as received`` basis, and are not corrected for dry weight.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63951

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-13

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1221	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1232	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1242	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1248	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1254	1600	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1260	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1262	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1268	ND	760	ug/Kg	2	09/19/24	SC	SW8082A
Total PCBs	1600	760	ug/Kg	2	09/19/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	82		%	2	09/19/24	SC	30 - 150 %
% DCBP (Confirmation)	72		%	2	09/19/24	SC	30 - 150 %
% TCMX	56		%	2	09/19/24	SC	30 - 150 %
% TCMX (Confirmation)	57		%	2	09/19/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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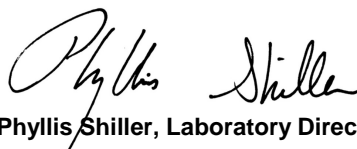
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: CAULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63952

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-14

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Caulk Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1221	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1232	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1242	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1248	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1254	1200	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1260	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1262	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1268	ND	830	ug/Kg	2	09/19/24	SC	SW8082A
Total PCBs	1200	830	ug/Kg	2	09/19/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	83		%	2	09/19/24	SC	30 - 150 %
% DCBP (Confirmation)	74		%	2	09/19/24	SC	30 - 150 %
% TCMX	57		%	2	09/19/24	SC	30 - 150 %
% TCMX (Confirmation)	57		%	2	09/19/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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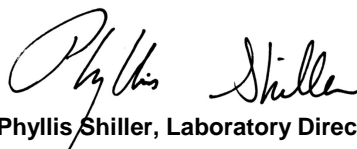
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

# Analysis Report

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

## Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63953

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-15

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1221	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1232	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1242	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1248	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1254	9100	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1260	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1262	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
PCB-1268	ND	980	ug/Kg	2	09/19/24	SC	SW8082A
Total PCBs	9100	980	ug/Kg	2	09/19/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	90		%	2	09/19/24	SC	30 - 150 %
% DCBP (Confirmation)	76		%	2	09/19/24	SC	30 - 150 %
% TCMX	76		%	2	09/19/24	SC	30 - 150 %
% TCMX (Confirmation)	76		%	2	09/19/24	SC	30 - 150 %



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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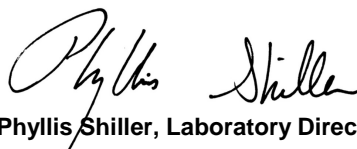
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102

# Analysis Report

September 25, 2024

FOR: Attn: Harley Langford  
 Tighe & Bond  
 213 Court St, Suite 1100  
 Middletown, CT 06457

Sample Information

Matrix: BULK  
 Location Code: TIGHE-DAS  
 Rush Request: Standard  
 P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
 Received by: SR1  
 Analyzed by: see "By" below

Date

09/13/24  
 09/16/24

Time

15:00  
 15:20

## Laboratory Data

SDG ID: GCR63947  
 Phoenix ID: CR63954

Project ID: NOTCH ROAD MUNICIPAL CENTER  
 Client ID: 24-0913-PSRC-NY-16

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				09/23/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1221	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1232	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1242	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1248	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1254	6000	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1260	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1262	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
PCB-1268	ND	940	ug/Kg	2	09/24/24	SC	SW8082A
Total PCBs	6000	940	ug/Kg	2	09/24/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	79		%	2	09/24/24	SC	30 - 150 %
% DCBP (Confirmation)	79		%	2	09/24/24	SC	30 - 150 %
% TCMX	70		%	2	09/24/24	SC	30 - 150 %
% TCMX (Confirmation)	72		%	2	09/24/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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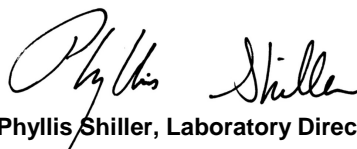
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level  
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63955

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-17

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1221	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1232	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1242	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1248	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1254	11000	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1260	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1262	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1268	ND	4600	ug/Kg	10	09/20/24	SC	SW8082A
Total PCBs	11000	4600	ug/Kg	10	09/20/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	77		%	10	09/20/24	SC	30 - 150 %
% DCBP (Confirmation)	87		%	10	09/20/24	SC	30 - 150 %
% TCMX	74		%	10	09/20/24	SC	30 - 150 %
% TCMX (Confirmation)	72		%	10	09/20/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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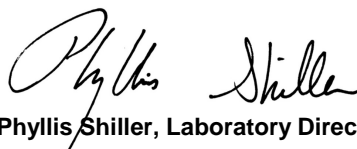
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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

**Analysis Report**

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63956

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-18

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				09/18/24	R/RB	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1221	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1232	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1242	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1248	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1254	14000	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1260	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1262	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
PCB-1268	ND	3700	ug/Kg	10	09/20/24	SC	SW8082A
Total PCBs	14000	3700	ug/Kg	10	09/20/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	84		%	10	09/20/24	SC	30 - 150 %
% DCBP (Confirmation)	87		%	10	09/20/24	SC	30 - 150 %
% TCMX	88		%	10	09/20/24	SC	30 - 150 %
% TCMX (Confirmation)	85		%	10	09/20/24	SC	30 - 150 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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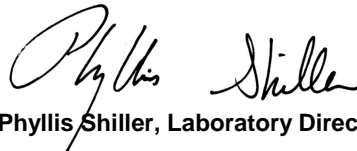
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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



**Environmental Laboratories, Inc.**

587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
Tel. (860) 645-1102

# Analysis Report

September 25, 2024

FOR: Attn: Harley Langford  
Tighe & Bond  
213 Court St, Suite 1100  
Middletown, CT 06457

Sample Information

Matrix: BULK  
Location Code: TIGHE-DAS  
Rush Request: Standard  
P.O.#: 11-5178-0001

Custody Information

Collected by: NY  
Received by: SR1  
Analyzed by: see "By" below

Date

09/13/24  
09/16/24

Time

15:00  
15:20

## Laboratory Data

SDG ID: GCR63947  
Phoenix ID: CR63957

Project ID: NOTCH ROAD MUNICIPAL CENTER  
Client ID: 24-0913-PSRC-NY-19

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Extraction for PCB	Completed				09/18/24	R/RB/CV	SW3540C
<b><u>PCB (Soxhlet SW3540C)</u></b>							
PCB-1016	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1221	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1232	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1242	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1248	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1254	20000	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1260	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1262	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
PCB-1268	ND	9900	ug/Kg	20	09/20/24	SC	SW8082A
Total PCBs	20000	9900	ug/Kg	20	09/20/24	SC	SW8082A
<b><u>QA/QC Surrogates</u></b>							
% DCBP	140		%	20	09/20/24	SC	30 - 150 %
% DCBP (Confirmation)	Interference		%	20	09/20/24	SC	30 - 150 %
% TCMX	86		%	20	09/20/24	SC	30 - 150 %
% TCMX (Confirmation)	96		%	20	09/20/24	SC	30 - 150 %



Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
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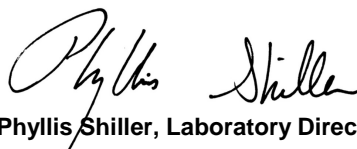
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QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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**Phyllis Shiller, Laboratory Director**

**September 25, 2024**

**Reviewed and Released by: Greg Lawrence, Assistant Lab Director**



Environmental Laboratories, Inc.  
 587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045  
 Tel. (860) 645-1102

# QA/QC Report

September 25, 2024

## QA/QC Data

SDG I.D.: GCR63947

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
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QA/QC Batch 750330 (ug/Kg), QC Sample No: CR63954 10X (CR63954)

### Polychlorinated Biphenyls - Bulk

PCB-1016	ND	170	95	99	4.1				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	111	114	2.7				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	120	%	117	119	1.7				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	110	%	108	111	2.7				30 - 150	30
% TCMX (Surrogate Rec)	105	%	102	105	2.9				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	96	%	95	98	3.1				30 - 150	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 749700 (ug/Kg), QC Sample No: CR63957 10X (CR63957)

### Polychlorinated Biphenyls - Bulk

PCB-1016	ND	170	105	106	0.9				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	103	104	1.0				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	110	%	108	112	3.6				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	109	%	105	108	2.8				30 - 150	30
% TCMX (Surrogate Rec)	101	%	106	109	2.8				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	103	%	108	109	0.9				30 - 150	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

QA/QC Batch 749676 (ug/Kg), QC Sample No: CR64486 10X (CR63947, CR63948, CR63949, CR63950, CR63951, CR63952, CR63953, CR63955, CR63956)

### Polychlorinated Biphenyls - Bulk

PCB-1016	ND	170	105	109	3.7				40 - 140	30
PCB-1221	ND	170							40 - 140	30
PCB-1232	ND	170							40 - 140	30
PCB-1242	ND	170							40 - 140	30
PCB-1248	ND	170							40 - 140	30

QA/QC Data

SDG I.D.: GCR63947


Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
PCB-1254	ND	170							40 - 140	30
PCB-1260	ND	170	102	106	3.8				40 - 140	30
PCB-1262	ND	170							40 - 140	30
PCB-1268	ND	170							40 - 140	30
% DCBP (Surrogate Rec)	114	%	110	116	5.3				30 - 150	30
% DCBP (Surrogate Rec) (Confirm)	111	%	108	113	4.5				30 - 150	30
% TCMX (Surrogate Rec)	98	%	99	103	4.0				30 - 150	30
% TCMX (Surrogate Rec) (Confirm)	97	%	101	105	3.9				30 - 150	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

- RPD - Relative Percent Difference
- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- MS - Matrix Spike
- MS Dup - Matrix Spike Duplicate
- NC - No Criteria
- Inf - Interference
- (ISO) - Isotope Dilution

  
Phyllis Shiller, Laboratory Director  
September 25, 2024

Criteria: None

State: CT

# Sample Criteria Exceedances Report

GCR63947 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR63947	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	60000	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	60000	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63947	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	9300	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	49000	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	49000	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	8600	1000	1000	ug/Kg
CR63948	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	*	8600	1000	1000	ug/Kg
CR63949	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	13000	970	1000	1000	ug/Kg
CR63949	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	13000	970	1000	1000	ug/Kg
CR63951	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1600	760	1000	1000	ug/Kg
CR63951	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1600	760	1000	1000	ug/Kg
CR63952	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	1200	830	1000	1000	ug/Kg
CR63952	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	1200	830	1000	1000	ug/Kg
CR63953	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	9100	980	1000	1000	ug/Kg
CR63953	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	9100	980	1000	1000	ug/Kg
CR63954	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	6000	940	1000	1000	ug/Kg
CR63954	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	6000	940	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	11000	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	11000	4600	1000	1000	ug/Kg

Criteria: None

State: CT

# Sample Criteria Exceedances Report

GCR63947 - TIGHE-DAS

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CR63955	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63955	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	4600	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	14000	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	14000	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63956	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	3700	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	Total PCBs	CT / Requested PCB RL /	20000	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1016	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1221	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1232	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1242	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1248	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1254	CT / Requested PCB RL /	20000	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1260	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1262	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg
CR63957	\$PCB_SOXR	PCB-1268	CT / Requested PCB RL /	ND	9900	1000	1000	ug/Kg

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.





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## RCP Certification Report

September 25, 2024

SDG I.D.: GCR63947

### PCB Narration

Were all QA/QC performance criteria specified in the Reasonable Confidence Protocol documents achieved? Yes.

#### Instrument:

**AU-ECD1 09/20/24-1** Saadia Chudary, Chemist 09/20/24

CR63948 (20X), CR63949 (2X), CR63956 (10X)

The initial calibration (PC0809AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC0809BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CR63948, CR63949

Preceding CC 920B048 - None.

Succeeding CC 920B056 - PCB 1260 24%H (%)

**AU-ECD1 09/24/24-1** Saadia Chudary, Chemist 09/24/24

CR63954 (2X)

The initial calibration (PC0809AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC0809BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CR63954

Preceding CC 924B018 - None.

Succeeding CC 924B031 - PCB 1260 21%H (%)

**AU-ECD24 09/19/24-1** Saadia Chudary, Chemist 09/19/24

CR63947 (20X), CR63950 (2X), CR63951 (2X), CR63952 (2X), CR63953 (2X)

The initial calibration (PC0909AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC0909BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CR63947, CR63950, CR63951, CR63952, CR63953

Preceding CC 919B029 - PCB 1260 28%H (%)

Succeeding CC 919B042 - DCBP SURR 24%H (20%), PCB 1260 29%H (%)

**AU-ECD48 09/20/24-1** Saadia Chudary, Chemist 09/20/24

CR63955 (10X)

The initial calibration (PC0729AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC0729BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:None.

**AU-ECD7 09/19/24-1** Saadia Chudary, Chemist 09/19/24

CR63957 (20X)

The initial calibration (PC0905AI) RSD for the compound list was less than 20% except for the following compounds: None.

The initial calibration (PC0905BI) RSD for the compound list was less than 20% except for the following compounds: None.

The continuing calibration %D for the compound list was less than 20% except for the following compounds:

Samples: CR63957

Preceding CC 919A044 - DCBP SURR 26%H (20%)

Succeeding CC 919A052 - DCBP SURR 23%H (20%)

#### QC (Batch Specific):

**Batch 749676 (CR64486)**

CR63947, CR63948, CR63949, CR63950, CR63951, CR63952, CR63953, CR63955, CR63956



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## RCP Certification Report

September 25, 2024

SDG I.D.: GCR63947

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### ***PCB Narration***

All LCS recoveries were within 40 - 140 with the following exceptions: None.  
All LCSD recoveries were within 40 - 140 with the following exceptions: None.  
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.  
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

#### **Batch 749700 (CR63957)**

CR63957

All LCS recoveries were within 40 - 140 with the following exceptions: None.  
All LCSD recoveries were within 40 - 140 with the following exceptions: None.  
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.  
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

#### **Batch 750330 (CR63954)**

CR63954

All LCS recoveries were within 40 - 140 with the following exceptions: None.  
All LCSD recoveries were within 40 - 140 with the following exceptions: None.  
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.  
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

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### ***Temperature Narration***

The samples were received at 2.3C with cooling initiated.  
(Note acceptance criteria for relevant matrices is above freezing up to 6°C)



2.3 WUP  
**Tighe&Bond**

**PCB SOURCE SAMPLE CHAIN OF CUSTODY**

Project Number: 11-5178-0001 Date: 9/16/2024  
 Project Name: Notch Road Municipal Center 1 of 1  
 Site Address: 104 Notch Road, Bolton, CT  
 Project Manager: Harley Langford

Sample ID	Material	Color	Substrate	Sample Location	Date Collected	Notes
24-0913-PSRC-NY-09	Exterior Window Caulk	Gray	Metal/Brick	Exterior - Center Section - Room 10	9/13/2024	63947
24-0913-PSRC-NY-10	Exterior Window Caulk	Gray	Metal/Brick	Exterior - Center Section - Finance Office	9/13/2024	63948
24-0913-PSRC-NY-11	Exterior Window Caulk	Gray	Metal/Brick	Exterior - Center Section - Room 16	9/13/2024	63949
24-0913-PSRC-NY-12	Exterior Window Glazing	Gray/Beige	Metal/Glass	Exterior - North Wing - Staff	9/13/2024	63950
24-0913-PSRC-NY-13	Exterior Window Glazing	Gray/Beige	Metal/Glass	Exterior - North Wing - Kitchen	9/13/2024	63951
24-0913-PSRC-NY-14	Exterior Window Glazing	Gray/Beige	Metal/Glass	Exterior - North Wing - Living Room	9/13/2024	63952
24-0913-PSRC-NY-15	Interior Ceiling Paint	White	Metal	North Wing - Upper Level - Room 13	9/13/2024	63953
24-0913-PSRC-NY-16	Interior Ceiling Paint	White	Metal	North Wing - Upper Level - Room 14	9/13/2024	63954
24-0913-PSRC-NY-17	Interior Wall Paint	White	CMU	North Wing - Upper Level - Room 12	9/13/2024	63955
24-0913-PSRC-NY-18	Interior Wall Paint	White	CMU	North Wing - Upper Level - Room 13	9/13/2024	63956
24-0913-PSRC-NY-19	Interior Wall Paint	White	CMU	North Wing - Upper Level - Room 14	9/13/2024	63957

**Analysis Method:** EPA Method 3500B/3540C (extraction), EPA Method 8082 (analysis) **Laboratory:** Phoenix **Turnaround Time:** Standard

**Email PDF of Results to:** HLangford@tighebond.com **Reporting Limit:** <1 ppm

**Special Instructions:** DAS Rates

**Samples Collected By:** Nathan Yergeau **Date:** 9/13/2024 **Time:** 3:00 PM

**Relinquished [By][To]:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Relinquished [By][To]:** [Signature] [Signature] **Date:** 9/16/2024 **Time:** 1440

**Relinquished [By][To]:** [Signature] [Signature] **Date:** 9/16/24 **Time:** 15:20

24-10-23-a-010

SECTION 02850

HAZARDOUS MATERIALS MANAGEMENT

PART 1 GENERAL

1.1 RELATED INFORMATION

- A. Related Sections
  - 1. Section 02222, Building Demolition
  - 2. Section 02820 Asbestos Abatement
  - 3. Section 02830, Lead-Based Paint Management
  - 4. Section 02840, PCB-Contaminated Building Materials Abatement

1.2 GENERAL PROVISIONS

- A. The removal and reclamation of hazardous materials as defined by the State of Connecticut Department of Energy and Environmental Protection (CTDEEP) is to be performed prior to demolition activities which will disturb the items.

1.3 PROJECT DESCRIPTION

- A. The Contractor shall furnish and pay for all labor, materials, facilities, equipment, services, employee training and testing, permits and agreements, and waste transport, incineration, and reclamation necessary to perform the Work.
- B. The Work shall be performed in accordance with these specifications and the requirements of the United States Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), and State of Connecticut regulations.
  - 1. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.
- C. Collection and reclamation of inert gases in lamp products - The Contractor is responsible for disassembling all interior light fixtures and removing the associated lamps from the fixtures for proper reclamation.
- D. Collection, reclamation and incineration of lighting ballast and electrical capacitors: The Contractor is responsible for disassembling light fixtures to access PCB/DEHP-containing ballast for proper disposal. The Contractor shall conduct a thorough inspection to identify all ballast.

1.4 LOCATION OF WORK AREAS

- A. The approximate locations of known universal/regulated building and former Site operations wastes, descriptions, estimated types and quantities of waste materials are described in Table 1 at the end of this Section.
- B. If additional waste is encountered that was not previously identified, notify Engineer.
- C. The quantities presented in Table 1 are provided for general guidance and may not correspond exactly to the amount of waste to be removed. Contractor shall assume that quantities of each waste stream may fluctuate plus or minus (+/-) fifteen percent (15%) for bidding purposes.

- D. Costs associated with handling and disposal of all wastes identified in this Section are to be included in the Bid. If the actual amount of waste encountered within the work area limits is greater than 15% more or less than the quantities provided in this Section costs for handling and disposal of those wastes will be paid for as a Change in Work in accordance with the unit prices proposed.

1.5 REFERENCES

- A. The Contractor is advised to thoroughly review the documents referenced in this Section. Strict adherence to the Universal Waste, hazardous materials, noise, air and water pollution regulations and requirements is required.

- 1. Code of Federal Regulations
  - a. Title 29 CFR Part 1910, "Occupational Safety and Health Standards" (General Industry Standards)
  - b. Title 29 CFR Part 1910.20, "Access to Employee Exposure and Medical Records"
  - c. Title 29 CFR Part 1910.134, "Respiratory Protection"
  - d. Title 29 CFR Part 1910.146, "Permit Required Confined Space"
  - e. Title 29 CFR Part 1910.1200, "Hazard Communication"
  - f. Title 29 CFR Part 1926, "Safety and Health Regulations for Construction" (Construction Industry Standards)
  - g. Title 40 CFR Part 50, "National Primary and Secondary Ambient Air Quality Standards"
  - h. Title 40 CFR Part 60, "Standards of Performance for New Stationary Sources," Appendix B, "Test Methods"
  - i. Title 40 CFR Part 117, "Determination of Reportable Quantities for Hazardous Substances"
  - j. Title 40 CFR 122, "EPA Administered Permit Program: The National Pollutant Discharge Elimination System"
  - k. Title 40 CFR 172, "Hazardous Waste Transportation"
  - l. Title 40 CFR 261, "Identification and Listing of Hazardous Waste"
  - m. Title 40 CFR 262, "Standards Applicable to Generators of Hazardous Waste"
  - n. Title 40 CFR 263, "Standards Applicable to Transporters of Hazardous Waste"
  - o. Title 40 CFR 268, "Land Disposal Restrictions"
  - p. Title 40 CFR 273, "Standards for Universal Waste Management"
  - q. Title 40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan"
  - r. Title 40 CFR 302, "Designation, Reportable Quantities, and Notification"
  - s. Title 40 CFR 745, "Renovation, Repair and Repainting Program"

2. EPA Publications
    - a. SW-846, Test Methods for Evaluating Solid Waste - Physical/Chemical Methods
    - b. EPA Method 3050, "Acid Digestion of Sediments, Sludges, and Soils"
  3. Connecticut Applicable Regulations
    - a. CGS Title 22a – Environmental Protection
    - b. CGS Section 22a-114 to 22a-134z Hazardous Waste Regulations
    - c. CGS Section 22a-416 to 22a-599 Water Pollution Control
    - d. CGS Section 22a-207 to 22a-256ee Solid Waste Management
    - e. CGS Section 22a-170 to 22a-206 Air Pollution Control
    - f. CGS Section 22a-67 through 76 Noise Pollution Control
- B. Local Town, City or County bylaws, rules, and regulations

#### 1.6 SUBMITTALS

- A. Prior to removal of Wastes identified in this Section, submit a Waste Handling and Disposal Plan, including means and methods for all waste characterization, management, handling, and disposal activities. Identify the proposed waste haulers and disposal facilities including copies of all applicable licenses, registrations, and approvals.
- B. Submit copies of all worker certifications associated with OSHA 40 Hour Hazardous Waste Site Health and Safety Training in accordance with Title 29 CFR 1910.120.
- C. After completion of the Waste removal activities, submit a final report documenting removal, transportation and disposal of all wastes generated during the Work. This shall include copies of manifests, shipping slips, permits, and licenses for this project.

#### 1.7 DEFINITIONS:

- A. BALLAST: a passive component used in an electric circuit to moderate changes in current. A light ballast regulates the current to the lamps and provides sufficient voltage to start the lamps. Ballasts manufactured prior to 1979 may contain PCBs. Ballasts manufactured between 1979 and 1991 may contain Di(2-ethylhexyl) phthalate (DEHP).
- B. CAPACITOR: a device used to store an electric charge, consisting of one or more pairs of conductors separated by an insulator. May contain PCBs. Capacitors are commonly used in electronic equipment including HVAC Units, pumps, etc.
- C. DEHP: Di(2-ethylhexyl) phthalate; manufactured chemical typically added to plastics to make them flexible. May be found in lighting ballasts manufactured between 1979 and 1991. Probable human carcinogen per U.S. EPA. Reasonably anticipated to be a human carcinogen per CDC.
- D. HANDLER: The Contractor removing the universal/hazardous waste product.
- E. LARGE QUANTITY GENERATOR: a handler can accumulate 5,000 kilograms or more of universal waste at any time.
- F. MERCURY: A silvery-white poisonous metallic element, liquid at room temperature and used in thermometers, barometers, vapor lamps, and batteries and in the preparation

of chemical pesticides. Mercury is known to have many different types of health effects particularly with the nervous, digestive, and urinary systems.

- G. POLYCHLORINATED BIPHENYLS (PCBs) – Any of several compounds that are produced by replacing hydrogen atoms in biphenyl with chlorine, have various industrial applications, and are toxic environmental pollutants which tend to accumulate in animal tissues. Probable human carcinogen per U.S. EPA. Reasonably anticipated to be a human carcinogen per CDC.
- H. SMALL QUANTITY GENERATOR: a handler can accumulate not more than 5,000 kilograms or more of universal waste at any time.
- I. UNIVERSAL WASTE: batteries, mercury-containing thermostats, certain pesticides, lamps (including but not limited to fluorescent, neon, and mercury vapor lamps), and used electronics.

## 1.8 GENERAL REQUIREMENTS

- A. Workers handling waste identified in this Section must be informed by their employer of the proper handling and emergency procedures appropriate to the type(s) of waste to be handled.
- B. All Work must be completed in accordance with the site-specific Health and Safety Plan to be developed by the Contractor.
- C. Contractor shall have on hand, spill prevention, containment, and response materials and equipment necessary to address spillage that may occur during the Work. Provide appropriate polyethylene sheeting to protect concrete floors and other surfaces from any spillage.
- D. Prepare all waste transportation and disposal documents as required. Provide fully executed waste shipping and disposal documents as proof of disposal when available and before completion of the project.

## PART 2 PRODUCTS

### 2.1 TRANSPORTATION AND STORAGE CONTAINERS AND LABELING

- A. All containers for universal/hazardous waste must be closed, structurally sound, compatible with the contents of the universal/hazardous waste, and must be capable of preventing leakage, spillage or damage that could cause leakage.
- B. All waste containers must be labeled in accordance with local, State, and Federal requirements.
  - 1. Universal waste lamps (each lamp) or a container or package in which such lamps are contained must be labeled or marked clearly with any of the following: "Universal Waste - Lamp(s)" or "Waste Lamp(s), or "Used Lamp(s)".
  - 2. Universal waste used electronics (each piece of equipment) or a container; package or pallet in which the used electronics are contained must be labeled or marked clearly with any of the following: "Universal Waste - used electronics" or "Waste Used Electronics, or "Used Electronics".
- C. All waste storage/shipping containers and labeling must comply with applicable United States Department of Transportation (DOT), USEPA, Connecticut DOT regulations and other regulations of all affected states.

**PART 3 EXECUTION****3.1 BALLAST/CAPACITOR REMOVAL**

- A. Workers shall don chemically resistant gloves, as exterior surfaces may contain trace quantities of PCBs or DEHP.
- B. Light fixtures and electrical motors shall be disassembled and inspected by the contractor. All resulting lamps and electrical motor capacitors shall be immediately packaged for reclamation.
- C. If ballasts or capacitors are found to be leaking, contaminated light fixtures, lenses and electrical motors shall be disposed of as PCB-contaminated materials.
- D. Spill containment and absorbent materials shall be on hand in the event a spillage of PCB-containing fluids occurs. Provide appropriate polyethylene sheeting to protect floors and other surfaces from any spillage.
- E. All protective equipment (gloves, suits) and materials contaminated during any cleanup shall be disposed of as PCB- contaminated waste along with the ballasts and fixtures.
- F. All Ballasts and fixture components shall be placed in DOT-approved barrels for subsequent transport immediately upon removal. Barrels will be labeled with the following yellow PCB caution label:

**CAUTION  
CONTAINS  
PCBs**

**(Polychlorinated Biphenyls)  
A toxic environmental contaminant  
Requiring special handling and  
Disposal in accordance with U.S.  
Environmental Protection Agency  
Regulations 40 CFR 761 - For  
Disposal Information contact the  
Nearest U.S. EPA Office.**

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**In case of accident or spill, call toll  
Free the U.S. Coast Guard National  
Response Center:  
800-424-8802**

- G. Separate ballasts, capacitors, and fixture components into separate drums. Leaking ballasts and capacitors shall be separate from all other items.
- H. Use new 17C 55-gallon open head steel drums that have been approved for transporting hazardous materials. Used or reconditioned drums may be used only if they have been properly cleaned, tested, and labeled.
- I. Drums shall be prepared by placing one to three inches of absorbent material in the bottom of the drum.
- J. Drums shall be packed so as to not exceed a total weight of 900 pounds. If proper handling equipment is not available, half fill the drums so that manual handling is possible.
- K. Ballasts and contaminated light fixture components shall be transported to an approved Recycling/Incineration facility in accordance with any waste hauler special requirements. CTDEEP regulations prohibit disposal at landfills.

- L. All drums and bulk items shall contain a material profile which includes the name, address, and telephone number of the waste generator; the date on which the materials were removed; a description of the materials, (i.e., discarded light ballasts); and the new DOT Shipping Description, (RQ, Polychlorinated Biphenyl, 9, UN2316, PGII).

### 3.2 MERCURY VAPOR LAMP AND FIXTURE REMOVAL

- A. Workers shall don chemically resistant gloves, as exterior surfaces may contain trace quantities of Mercury.
- B. Light fixtures shall be disassembled and inspected by the contractor. All resulting lamps shall be immediately packaged for reclamation.
- C. Carefully remove fluorescent lighting and place directly into boxes or barrels specifically designed for the transport of fluorescent lighting. Package lighting and ballast in accordance with the recycling facilities requirements. Broken glass and residual dust shall be HEPA vacuumed and disposed of as Mercury-contaminated materials.
- D. Manifest lighting reclamation at an approved facility. Provide proof of reclamation at the completion of the project.

### 3.3 BATTERIES AND FIRE EXTINGUISHERS

- A. In accordance with State and Federal regulations, many batteries and fire extinguishers must be managed as hazardous waste when disposed of. These include, but are not limited to, all types of fire extinguishers, lead acid batteries, nickel cadmium batteries, lithium batteries, and older alkaline batteries containing mercury. The following protocol shall be followed for the disposal of all such fire extinguishers and batteries:
  - 1. Collection, characterization, and proper disposal of all fire extinguishers and batteries found throughout the facility.
  - 2. Provide waste shipment documentation or recycling records and incorporate in the final report.

### 3.4 REFRIGERATION CFC SOURCES

- A. Refrigerant from typical window type air conditioners, refrigeration units and water coolers were identified. Collect and capture remnant refrigerant from typical window type air conditioners, refrigeration units, and water coolers.
- B. Capture and evacuate all refrigerant-containing systems using a vacuum pump.
  - 1. Furnish and install all necessary valves and fittings required to capture and collect the refrigerant in DOT-approved recovery cylinders or drums.
  - 2. Properly label all recovery cylinders and drums.
- C. All activities associated with the removal and reclamation of refrigerant gases shall be in accordance with Section 608 of the Federal Clean Air Act Amendments and any applicable state regulations.
- D. After removal of refrigerants, Contractor shall coordinate with the General Contractor regarding the disposal of the specific housing unit (i.e. window A/C unit, refrigeration units, water cooler) in accordance with applicable regulations.

### 3.5 OILS/LIQUIDS AND MACHINERY FLUIDS

- A. Drain all equipment and tanks containing lubricating oils and fuel oils.

- B. Collect and drum all fluids, including decontamination fluids drained from the fuel oil tank and boiler equipment.
- C. Characterized all fluids and liquids scheduled for disposal.
- D. Label drums for transport and disposal in accordance with applicable regulations. Submit disposal manifests for all waste disposals.
- E. After removal of all hazardous components, dispose of remaining equipment carcasses and piping in accordance with applicable regulations. Contractor shall submit documentation verifying removal, transportation, and disposal at the approved disposal facility.

### 3.6 MANIFESTING AND TRANSPORTING PCB MATERIALS

- A. All drums and bulk items shall contain a material profile which includes the name, address, and telephone number of the waste generator; the date on which the materials were removed; a description of the materials, (i.e., discarded light ballasts); and the new DOT Shipping Description, (RQ, Polychlorinated Biphenyl, 9, UN2316, PGII).
- B. Provide a Bill of Lading for reclamation; Connecticut Department of Environmental Protection (CTDEEP) Hazardous Waste Manifest; and/or federal Uniform Hazardous Waste Manifest, as appropriate with each shipment.
- C. Drums and bulk items shall be transported by a licensed hazardous waste hauler, unless leaking ballasts are involved, in which case a registered PCB hauler shall be utilized.
- D. Drums and bulk items shall be transported from the work site immediately upon completion of removal and packing. No materials are to be stored at the site.

### 3.7 PCB MATERIAL INCINERATION

- A. Ballasts and contaminated light fixture components shall be transported to an approved Recycling/Incineration facility in accordance with any waste hauler special requirements. CTDEEP regulations prohibit disposal at landfills.
- B. Provide waste shipment records and waste manifests confirming the proper handling of PCB-containing light ballast, PCB-contaminated light fixture components and Mercury vapor lighting.

### 3.8 FINAL CLEANING

- A. Unless otherwise specified under Sections of this Specification, the Contractor shall perform final cleaning operations as herein specified prior to final inspection.
- B. Upon completion of the removal of hazardous or PCB-containing material in any given work area, cleaning will be performed by the Contractor. In general, cleaning shall be performed at the end of each workday to prevent the migration of dust or debris to areas beyond the work limits.
- C. Cleaning shall include all surfaces, interior and exterior, to which the Contractor has had access.
- D. Any water used for final cleaning shall be containerized, managed, and disposed of by the Contractor as required by law. Decontamination water may also need to be disposed of as PCB Remediation waste greater than 50 ppm depending on its source. Disposal of such wastewater shall be included in Contractor's base bid line items and no separate pay item will be authorized.



- E. Final cleaning includes removal of any contaminated material, equipment, or debris (including polyethylene sheeting) from the work area and removal of all visible dust located on surfaces. All collected polyethylene sheeting, personal protection equipment, or other disposable equipment or materials in contact with hazardous and/or PCB-containing waste shall be packaged for disposal as hazardous and/or PCB waste.
- F. Special attention shall be given to personal hygiene and cleaning of supplies and/or equipment.

3.9 CLOSEOUT DOCUMENTS

- A. Submit to the Owner/ Engineer, final completed copies of the waste manifests or bills of lading signed by all transporters and the designated disposal site owner/operator.
- B. Submit to the Engineer copies of all OSHA personal air monitoring results, Contractor's logs, and all worker certifications.
- C. Final payment will be withheld until receipt of all the above documentations to Owner's/ Engineer's satisfaction.

TABLE 1 – LIST OF HAZARDOUS BUILDING WASTES					
Material	Waste Type	Container Type & Size	Approximate Quantity*	Location	Comments
Fluorescent Light Bulbs	Mercury Vapor	4' Glass Tubes	650 EA	Throughout	
Fluorescent Light Ballasts	PCBs or DEHP	Metal	325 EA		Presumed PCBs or DEHP
Compact Fluorescent Light Bulbs	Mercury	Glass Threaded Bulbs	40 EA		
Emergency Lights/Signs	Heavy Metals (Lead, Etc.)	Plastic Fixtures	15 EA		
Mercury Switch/Thermostat	Liquid Mercury	Glass Vial	30 EA		Fixtures Inaccessible / Assumed Mercury
Capacitors	PCBs	Metal Motors	15 EA		Associated with Small Motors and HVACs
Refrigerants	Freon, etc.	Metal Reservoirs	10 A/C Units 2 Water Fountains		
Fire Extinguishers	CO <sub>2</sub> / monoammonium phosphate / ammonium sulfate	Metal	10 EA		
Smoke Detectors	Trace Amounts of radioactive material, Americium-241	Plastic Fixtures	15 EA		

<b>TABLE 1 – LIST OF HAZARDOUS BUILDING WASTES</b>					
<b>Material</b>	<b>Waste Type</b>	<b>Container Type &amp; Size</b>	<b>Approximate Quantity*</b>	<b>Location</b>	<b>Comments</b>
High Intensity Discharge (HID) Gas Bulbs	Metal Halide and/or High Pressure Sodium; Mercury Vapor	Glass Bulbs	8 EA	Center Section – Lower Level – Boiler and Storage Rooms and Throughout Exterior	
Cleaning Supplies	Miscellaneous Chemicals	Plastic Bottles and Aerosol Cans	10 EA (Plastic) 20 EA (Aerosol)	Center Section – Lower and Upper Level – Janitor’s Closets	
Paints and Building Materials	Miscellaneous Chemicals	Metal	6 Gallons	Center Section – Lower Level – Boiler Room	
Electronic Waste	Lead and Cadmium	Plastic Fixtures	25 EA	Center Section – Lower Level – Server Area, Upper Level – Room 10, Room 11, Room 7, and Office	Computers, Monitors, Printers, Modems, Fans, Keyboards, Etc.

\* Approximate quantities included in this Table are provided to establish an order of magnitude for the amount of material that must be abated. Actual quantities may vary. It is the sole responsibility of the Contractor to visit the site, review the Contract Documents and determine the quantities of items to be removed when developing their Bid.

LEGEND

EA = Each

CO<sub>2</sub> = Carbon Dioxide

PCB = Polychlorinated biphenyl

DEHP = Diethylhexyl Phthalate  
N/A = Not Applicable

END OF SECTION