



City of Meriden, Connecticut

Purchasing Department

Invitation to Bid

For

Demolition of 100 Hanover Street & 104 Butler Street

Meriden, CT

B022-44

Proposals Due: June 9, 2022 @ 11:00 AM

Purchasing Department

142 East Main Street, Room 210

Meriden, CT 06450

(203) 630-4115

LEGAL NOTICE

INVITATION TO BID

The City of Meriden is accepting sealed bids for:

B022-44 – Demolition of 100 Hanover Street and 104 Butler Street

The City of Meriden seeks the services of a contractor to furnish labor and materials to demolish properties located at 100 Hanover Street, Meriden, CT 06451 and 104 Butler Street, Meriden, CT 06451.

Bids shall be submitted on forms and in the manner specified. Forms and specifications may be obtained from the Purchasing Department, on the City of Meriden website (www.meridenct.gov/business/bids-rfps/), and on the State of Connecticut Department of Administrative Services website (<https://portal.ct.gov/DAS/CTSource>). Bids will be accepted at the Purchasing Department, 142 East Main Street, Room 210, Meriden, Connecticut 06450 until **11:00 A.M. local, eastern standard time on June 9, 2022** at which time they will be publicly opened and read. Any bid received after the time and date specified shall not be considered.

There will be a Non-Mandatory Pre-Bid Meeting on Wednesday, June 1, 2022 at 10:00 AM at the City of Meriden Engineering Conference Room, Room 19, 142 East Main Street, Meriden, CT 06450.

The right is reserved to reject any or all bids, in whole or in part, to award any item, group of items, or total bid, and to waive informality or technical defects, if it is deemed to be in the best interest of the City of Meriden. No bidder may withdraw its bid within sixty (60) days of the date of the bid opening.

Each bid shall be accompanied by a Certified Check or Bid Bond in the amount of Ten (10%) percent of the amount bid.

Labor and Material Payment Bond and a Performance bond for One Hundred Percent (100%) of the contract price, with a corporate surety approved by the City of Meriden, will be required of the lowest responsible bidder.

The attention of bidders is call to the requirement for minimum wage rates to be paid under this contract.

This contract is subject to state set-aside and contract compliance requirements.

The City of Meriden is an Affirmative Action/Equal Opportunity Employer. Disadvantaged, minority, small, and women business enterprises are encouraged to respond.

Adam B. Tulin
Purchasing Officer
City of Meriden, CT 06450-8022
Dated: May 17, 2022

CITY OF MERIDEN, CONNECTICUT

B022-44 – Demolition of 100 Hanover Street & 104 Butler Street

INFORMATION TO BIDDERS

1. BIDDING PROCEDURES

Sealed Bids shall be submitted on the forms designated by the attached proposal bid forms. Bids will be received by the City of Meriden's Purchasing Department, Room 210, City Hall, 142 East Main Street, Meriden, Connecticut, 06450-8022 until 11:00 a.m. on June 9, 2022 and thereafter immediately read in public (the "bid opening").

2. BIDS

Bids are to be submitted on the attached proposal forms. Please submit two copies of the proposal forms and Bidder's Qualification Statement. One shall be an original and one can be a copy. **Please submit one complete copy of your bid on a flash drive.**

BID WILL BE AUTOMATICALLY REJECTED FOR ANYONE SUBMITTING A SURETY OTHER THAN THOSE SPECIFIED.

- a. Bids must be made out and signed in the corporate, or other, name of Bidder, and must be fully and properly executed by an authorized person.
- b. The sealed envelope must denote the Bidder's name and address in the upper left hand corner and the words "BID DOCUMENT – B022-44 – Demolition of 100 Hanover Street & 104 Butler Street to be opened at 11:00 a.m." in the lower left hand corner.
- c. Bids received later than the time and date specified will not be considered.
- d. Amendments to or withdrawal of bids received later than the date and time set forth in the bid opening will not be considered.
- e. All prices must be in ink or typewritten. In the event of a bidder's mathematical error in tabulating any bid prices, ***the written unit prices shall govern.***

3. BIDDER QUALIFICATIONS

Bidders will be required to fill out, and include as part of its bid, any attached Bidder's Qualification Statement.

In determining the qualifications of a bidder, the City of Meriden will consider the bidder's record of performance in any prior contracts for construction work. The City of Meriden expressly reserves the right to reject a bid if the bidder's historical performance, in the sole opinion of the City of Meriden, has been unsatisfactory in any manner or if the bidder has habitually and without just cause neglected the payment of bills or has otherwise disregarded its obligations to subcontractors, suppliers, or employees.

4. EXAMINATION OF BIDDING DOCUMENTS

Bidders are to examine all documents and visit the site in order to make a thorough examination of the conditions so that the bidder may familiarize itself with all of the existing requirements, conditions, and difficulties that will affect the execution of the work in order to determine the amount of work necessary to carry out the true intent of the specifications and work shown on the drawings.

The City of Meriden and its agents do not have any responsibility for the accuracy, completeness, or sufficiency of any bid document obtained from any other source other than from the City of Meriden. Obtaining documents from any other source(s) may result in obtaining incomplete and inaccurate information. Obtaining documents from any other source may also result in failure to receive any addenda, corrections, or other revisions to the documents that may be issued.

No request shall be honored if such request is made less than seven (7) calendar days prior to the date fixed for the opening of bids. Any and all such interpretations, and any supplementary instructions, will be in the form of a written addenda to the specifications which, if issued, will be made available on the City of Meriden website (www.meridenct.gov) unless it is to change the date fixed for the opening of bids, not later than three (3) days prior to the date fixed for the opening of bids. Bidders are encouraged to check the website regularly for addenda. Failure of any bidder to receive any such addenda shall not relieve any bidder from any obligations under its bid as submitted.

Any questions about the bid document must be submitted in writing via email to meridenpurchasing@meridenct.gov. Any other format of question will not be answered.

5. BIDS TO REMAIN OPEN

No bidder may withdraw its bid within sixty (60) days of the date of the bid opening. Should there be reason why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the City of Meriden and the successful bidder.

6. AWARD OF CONTRACT

The Purchasing Officer reserves the right to make an award on the bid which, by the Purchasing Officer's judgment and recommendation from the Department of Public Works, Engineering Division following bid evaluations, best meets the specifications and is deemed to be in the best interest of the City of Meriden.

The contract will not be awarded to any corporation, firm, or individual which/who is in arrears to the City of Meriden by debt or contract, or who is in default as security or otherwise by any obligation to the City of Meriden.

The right is reserved to reject any or all bids, in whole or in part, to award any item, group of items, or total bid, and to waive informality or technical defects, if it is deemed to be in the best interest of the City of Meriden.

7. BID PROTEST PROCEDURE

In the event that any bidder wishes to protest the potential award of a bid, or any procedure of act in the advertising or soliciting of the bids, said bidder must make said protest in writing, which shall state the reason therefore and request a conference with respect thereto. Said protest must be received in the City Purchasing Office within **FIVE (5)** business days after the delivery of bid results or decisions. A conference with respect to said protest shall be scheduled by the Purchasing Officer forthwith and shall be attended by him or his designee and such other persons as the Purchasing Officer and the City Manager shall require to attend. The subject matter of said conference shall be limited to the reasons for the protest specified in the written request for said conference. Said conference shall also include a discussion of all possibilities for a resolution of dispute. The City shall make a decision in writing within three (3) business days after said conference and forward the same to the protesting bidder forthwith. In the event that any protesting bidder wishes to take legal action against the City, they must fully comply with all of these instructions to bidders.

8. CITY OF MERIDEN, LOCAL PREFERENCE – N/A

9. EXTENSION OF AGREEMENT – N/A

10. TIME

Inasmuch as the contract concerns a public improvement, the provisions of the contract relating to the time of performance and completion of the work are of the essence of the contract. Accordingly, the successful bidder/contractor (“Contractor”) shall begin work on the day specified in paragraph 2.04 of the General Conditions and shall perform the work diligently so as to permit full use not later than the first day following the construction period established in the Contract. See paragraph 10 entitled “Liquidated Damages” of the Agreement between City of Meriden, as owner, and the Contractor.

11. SCHEDULE OF WORK

The Contractor shall schedule all work in a manner that will not disrupt City of Meriden operations. Once the work has begun, the Contractor shall work full-time until completion of the Contract.

12. TAXES

The City of Meriden is exempt under Connecticut General Statutes from the payment of the excise taxes imposed by the federal government and the Sales and Use Tax of the State of Connecticut; such taxes should not be included in the bid price. Upon request, exemption certificates will be furnished to the successful bidder.

13. FAIR EMPLOYMENT PRACTICES

The Contractor shall agree that neither it or its subcontractors, except in the case of a bona fide occupational qualification or need, to refuse to hire or employ or to bar or to discharge from employment any individual or to discriminate against such individual in compensation or in terms, conditions or privileges of employment because of the individual's race, color, religious creed, age, sex, gender identity or expression, marital status, national origin, ancestry, present or past history of mental disability, intellectual disability, learning disability, physical disability, including, but not limited to, blindness or status as a veteran. The aforementioned terms are obtained from Connecticut General Statutes Section 46a-60, *et seq.*, entitled "Discriminatory employment practices prohibited," as amended.

14. FORM OF AGREEMENT BETWEEN CITY OF MERIDEN AND CONTRACTOR

The Agreement for the work will be written on the Agreement between City of Meriden and Contractor, wherein the basis of payment is a stipulated sum. The City of Meriden reserves the right to award the demolition of both properties together in one contract or to award separately to two contractors.

15. LOCAL SUBCONTRACTORS, SUPPLIERS, etc.

Local subcontractors, material suppliers, and labor in the City of Meriden should be considered and sought out insofar as it is practical in the performance of this project.

16. CITY OF MERIDEN CODE OF ETHICS

The City of Meriden has adopted a Code of Ethics located in Chapter 21 of the Code of the City of Meriden, sections 21-1 through 21-15, inclusive, which are expressly incorporated herein by reference. The terms of the Code of Ethics shall constitute a part of any contract or agreement entered into by the City of Meriden as a result of this bid as if those terms were fully set forth in such contract or agreement.

Bidders are specifically advised that the Code of Ethics prohibits public officers and employees, as well as their immediate families and businesses, with which they are associated from participating in any transaction which is incompatible with the proper discharge of official duties or responsibilities. Bidders are also advised that the Code of Ethics contain provisions with respect to paid contractors and former employees and officials.

BIDDERS SHOULD NOTE THAT BIDS, CONTRACTS, AND AGREEMENTS ENTERED INTO OR AWARDED IN VIOLATION OF THE CODE OF ETHICS ARE VOIDABLE BY RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MERIDEN.

Copies of the Code of Ethics may be obtained from the office of the City Clerk or may be found online on the City of Meriden's website.

17. NON-COLLUSION BID STATEMENT

Each bidder submitting a bid to the City of Meriden for any portion of the work contemplated by the documents on which bidding is based shall execute and attach thereto the sworn Non-Collusive Bid Statement, to the effect that the bidder has not colluded with any other person, firm, or corporation in the submission of the bid.

18. SOIL CONDITIONS

The City of Meriden does not guarantee the accuracy of any information which it may have obtained as to the kind or condition of the soil that may be encountered in the performance of the proposed work; neither does the City of Meriden represent that the plans and specifications drawn are based upon any soil data so obtained. The City of Meriden does not make any representations as to the soil data so obtained. The City of Meriden does not make any representations as to the soil conditions to be encountered or as to foundation materials.

19. AWARD IN CASE OF A TIE

In the event there are two or more responsive bidders, the decision to award will be based by the following criteria and in the following order:

- a. The incumbent will be awarded the bid over that of another bidder.
- b. In the case of a multi-item bid, if one bidder has been awarded other items from the same bid and the other bidder has not, the bidder with the multiple awards will be awarded the bid over that of another bidder.
- c. The bidder located in the State of Connecticut will be awarded the bid over that of another bidder.
- d. The winner of a coin toss will be awarded the bid over that of another bidder.

The above-referenced provisions do not apply to those situations in which more than one City-based business responsible bidder has submitted bids not more than ten (10) percent higher than the lowest bid and has agreed to accept the award of the bid at the amount of the lowest bid. Under such circumstances, the provisions of the Code of the City of Meriden, section 3-14, are controlling, as set forth under Section 8 of this 'Information to Bidders.'

20. ASSIGNMENT OF CONTRACT

No contract may be assigned without the written consent of the Purchasing Officer or designee.

21. PERMITS

The Contractor shall be responsible for obtaining any and all necessary permits required by the City of Meriden prior to the commencement of work. The Contractor may contact the

City of Meriden Building Department for permit information at (203) 630-4091. For all other required permits, contact the City of Meriden Engineering Department at (203) 630-4018.

22. BID PRICE AND PAYMENT

The City of Meriden is exempt from the payment of the excise taxes imposed by the Federal government and the Sales and Use Tax of the State of Connecticut under Connecticut General Statutes; accordingly, such taxes shall not be included in the bid price.

The City of Meriden, unless stated otherwise in the bidding documents or Contract, will make payment to the Contractor not less than thirty (30) days following completion of services.

23. QUALITY

All materials, equipment, supplies, and services shall be subject to rigid inspection. If defective material, equipment, supplies, or services are discovered, the Contractor shall remove or make good such material, equipment, or supplies without extra compensation. It is expressly understood and agreed that any inspection by the City of Meriden will in no way lessen the responsibility of the Contractor or release Contractor from the obligation to perform and deliver to the City sound and satisfactory materials, equipment, supplies, or allow the cost to be deducted from any monies due it from the City of Meriden. All services will be performed in a workmanlike manner.

24. INSURANCE

The successful bidder shall be required to provide a Certificate of Insurance denoting general liability, automobile liability, workers compensation liability, and other coverage required by the City's Risk Manager.

25. CITY HALL CLOSING

If Meriden City Hall is closed due to inclement weather, or any other unforeseen event, bids will be due at the same time on the next business day that City Hall is open.

26. CHRO

The contractor who is selected to perform this State project must comply with CONN. GEN. STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5. An Affirmative Action Plan must be filed with and approved by the Commission on Human Rights and Opportunities prior to the commencement of construction. State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. § 4a-60g, as amended. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified

Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals. For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at http://www.ct.gov/opm/cwp/view.asp?a=2982&q=390928&opmNav_GID=1806.

CITY OF MERIDEN, CONNECTICUT

B022-44 – Demolition of 100 Hanover Street & 104 Butler Street

NON-COLLUSIVE BID STATEMENT/AFFIDAVIT

The undersigned bidder, having been duly sworn, does hereby depose and says:

1. The bid has been arrived at by the bidder independently and has been submitted without collusion and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or services described in the Invitation to Bid.
2. The contents of the bid have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid, and will not be communicated to any such person prior to the official opening of the bid.
3. The undersigned bidder is duly authorized to bind the business entity identified below.

The undersigned bidder further certifies, under oath, that this statement is executed for the purposes of inducing the City of Meriden to consider the bid and make an award in accordance therewith.

Signature of Bidder

Print Legal Name of Bidder

Relationship to Business Entity Below

Business Entity Name, Address, Telephone Number, and Email Address

STATE OF CONNECTICUT)
) ss:
COUNTY OF)

Duly sworn and subscribed to before me
this __ day of _____, 2022.

Notary Public
My Commission Expires:
Commissioner of the Superior Court

BIDDER'S QUALIFICATION STATEMENT

This Statement of Bidder's Qualifications is to be submitted by the bidder at the time of the bid opening. All questions must be answered and the data given must be clear and comprehensive. If necessary, questions must be answered on attached sheets. The bidder may submit any additional information they desire. It is understood that when the City has executed an Agreement, to which these General Conditions are a part, it is, in part, done upon the reliance of the answers provided herein by the bidder or the agent of the bidder.

Firm Name

Address

Telephone	Fax
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Officers: _____ President
 _____ Vice President
 _____ Secretary
 _____ Treasurer

Bank References:

Bond surety Company:

If a partnership, give names of partners. If a sole proprietorship, give name and title of a least one responsible employee.

Experience: The Bidder shall be qualified by experience to perform work of this nature and shall list five (5) examples of similar projects completed within the past five (5) years, with the names of responsible parties as references.

[illegible]

1. Minority owned business? _____ yes _____ no
2. Years organized. _____
3. Is your company a corporation _____ yes _____ no
If yes where incorporated? _____
4. How many years have you been engaged in business under your present firm name? _____
5. Former Firm Name (if any) _____
6. List total number of Personnel _____
7. Is any principal of your firm an employee or public official of the City of Meriden, or an immediate family member of an employee or public official of the City of Meriden? (Definition of immediate family includes: an individual's spouse, fiancé or fiancée; the parent, brother or sister of such individual or spouse; and the child of such individual or the spouse of such child.)
_____ yes _____ no
8. List Vehicles and Equipment that you will use to perform this work: (show age of vehicles and equipment, sizes, capacities, etc.)

9. List the work to be performed by Subcontractors and summarize the dollar value of each subcontract.

10. List the name and address of the more important contracts recently completed by you, starting the approximate gross cost for each, and the month and year completed:

11. General character of work performed by you _____

12. Have you ever failed to complete any contract awarded to you? If so, where and why?

13. Have you ever defaulted on a contract? If so where and why?

14. Have you ever filed bankruptcy: _____ Please explain: _____

15. Will you, upon request, furnish any information that may be required by the City of Meriden? _____
16. The undersigned hereby authorizes and request any person, firm or cooperation to furnish any information requested by the City of Meriden, in verification of the recitals comprising this Statement of Bidder's Qualifications.

Dated this _____ day of _____, 20____
day month year

Name of Bidder

Title

State of _____
County of _____

_____ being duly sworn deposes and says that they are
Name
_____ of _____
title name of organization
and that the answers to the forgoing question and all statement therein contained are true and correct

Subscribed and sworn to before me
this _____ day of _____ 20____
day month year

Notary Public signature

My commission expires _____

FORM OF SURETY GUARANTY

(Shall accompany proposal)

KNOW ALL MEN BY THESE PRESENTS, that for and in consideration of the sum of \$1.00, lawful money of the United States, the receipt whereof is hereby acknowledged, paid the undersaid corporation, and for other valuable consideration the

(Name of Surety Company) .

a corporation organized and existing under the laws of the State of _____

and licensed to do business in the State of _____ certifies and agrees

that if Contract _____

is awarded to - _____
(Name of Bidder)

Corporation will execute the bond or bonds as required by the Contract Documents and will become surety in the full amount of the Contract price for the faithful performance of the Contract and for payment of all persons supplying labor or furnishing or furnishing materials in connection thencewith.

(Surety)

The language of this form shall generally be given on the official form normally provided by the Surety Company complete with the usual proof of Authority of Officers of the Surety Company to execute said official form.

Should a bid be offered with a check as surety without said official form, such bid shall be rejected.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____,
(Name of Principal)

As Principal, and _____,
(Name of Surety)

Unto the CITY OF MERIDEN, CONNECTICUT hereinafter called the "OWNER", in the penal sum of

_____ DOLLARS, (\$_____) lawful money of the
United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents:

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, WHEREAS, the said Principal has submitted the Accompanying bid
dated _____, 20 ____

For _____

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the Period specified therein after the opening of
the same, or if no period be specified, within thirty (30) days after the said opening and shall within the period
specified therefore, or if no period be specified, within ten (10) days after the prescribed forms are presented to him
for signature, enter into a written Contract with the Owner in accordance with the Bid, as accepted, and give bond
with good and sufficient surety or sureties, as may be required for the faithful performance and proper fulfillment of
such Contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such
Contract and give such bond within the time specified, if the Principal shall pay the Owner the difference between the
amount specified in said Bid and the Amount for which the Owner may procure the required work or supplies or both,
if the latter be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in
full force and effect.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, this _____ day of
_____, 20 ____.

(Principal)

(Address) (Affix seal)

By: _____

(Surety)

(Address) (Affix seal)

By: _____

Witness Signature

Witness Signature

BID FORM

B022-44

Demolition of 100 Hanover Street & 104 Butler Street

Date of Opening: June 9, 2022

At: 11:00 AM

To: Adam B. Tulin, MPA
Purchasing Officer
142 East Main Street, Room 210
Meriden, CT 06450-8022

The undersigned _____, doing business in the City/Town of _____, in the State of _____, herewith, after reading thoroughly the Specifications and other Bid documents (including if any addendum or addenda) submit the following proposal:

Quantities below are an approximation of a sample project a contractor might be awarded under this contract. Please utilize these quantities to prepare your bid form but it is no promise or guarantee of work.

B022-44 – Demolition of 100 Hanover Street & 104 Butler Street

ITEM	Item Description	Extended Total Dollars & Cents
	Written In Words:	
1	100 Hanover Street: _____	\$ _____
2	104 Butler Street: _____	\$ _____

Total Bid Amount: \$ _____

Receipt of Addenda is acknowledged:

No: _____ Dated: _____

No: _____ Dated: _____

NAME OF BIDDER _____

ADDRESS _____

BY: _____
Print or type name Title

SIGNATURE _____ DATE _____

TELEPHONE _____ E-Mail _____

PLEASE NOTE: All spaces must be filled in with figures or words or your bid may be automatically rejected.



Opportunity ★ Guidance ★ Support



THIS IS A PUBLIC WORKS PROJECT

Covered by the

PREVAILING WAGE LAW

CT General Statutes Section 31-53

**If you have QUESTIONS regarding your wages
CALL (860) 263-6790**

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

STATUTE 31-55a

- SPECIAL NOTICE -

To: All State and Political Subdivisions, Their Agents, and Contractors

Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the **contractor's** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.


Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

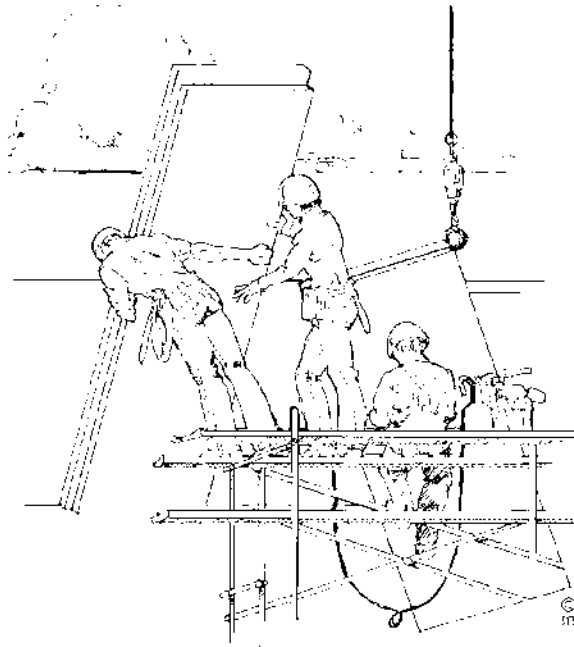
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached “Contracting Agency Certification Form” to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

 Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION
CONTRACT COMPLIANCE UNIT

CONTRACTING AGENCY CERTIFICATION FORM

I, _____, acting in my official capacity as _____,
authorized representative title

for _____, located at _____,
contracting agency address

do hereby certify that the total dollar amount of work to be done in connection with

_____, located at _____,
project name and number address

shall be \$_____, which includes all work, regardless of whether such project
consists of one or more contracts.

CONTRACTOR INFORMATION

Name: _____

Address: _____

Authorized Representative: _____

Approximate Starting Date: _____

Approximate Completion Date: _____

Signature

Date

Return To: Connecticut Department of Labor
Wage & Workplace Standards Division
Contract Compliance Unit
200 Folly Brook Blvd.
Wethersfield, CT 06109

Date Issued: _____

CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM
Construction Manager at Risk/General Contractor/Prime Contractor

I, _____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

Street

City

and all of its subcontractors will pay all workers on the

Project Name and Number

Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

Signed

Subscribed and sworn to before me this _____ day of _____, _____.

Notary Public

Return to:

Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;
- (7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;
- (8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;
- (9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice
To All Mason Contractors and Interested Parties
Regarding Construction Pursuant to Section 31-53 of the
Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.
- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

Information Bulletin

Occupational Classifications

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53(d).

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS. PILEDRIVMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **LABORER, CLEANING**

- The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

- **DELIVERY PERSONNEL**

- If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

- An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

- **ELECTRICIANS**

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ****License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.***

- **ELEVATOR CONSTRUCTORS**

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. **License required by Connecticut General Statutes: R-1,2,5,6.*

- **FORK LIFT OPERATOR**

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

- **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

- **INSULATOR**

- Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

- **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal)).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

- Painter's Rate

1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

- Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ****License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***

- **POWER EQUIPMENT OPERATORS**

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ****License required, crane operators only, per Connecticut General Statutes.***

- **ROOFERS**

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be relaid.)

- **SHEETMETAL WORKERS**

Fabricate, assemble, install and repair sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

- **SPRINKLER FITTERS**

Installation, alteration, maintenance and repair of fire protection sprinkler systems.

****License required per Connecticut General Statutes: F-1,2,3,4.***

- **TILE MARBLE AND TERRAZZO FINISHERS**

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are required to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ****License required, drivers only, per Connecticut General Statutes.***

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

➤ *Any questions regarding the proper classification should be directed to:*
Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543.

**Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES**

- ⇒ Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

- a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

- a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year’s Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

- a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

- a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

- a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

Minimum Rates and Classifications
for Building Construction

ID#: 22-34803

Connecticut Department of Labor
Wage and Workplace Standards Division

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: B022-44

Project Town: Meriden

State#:

FAP#:

Project: Demolition of 100 Hanover Street & 104 Butler Street

CLASSIFICATION	Hourly Rate	Benefits
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 7**		
1c) Asbestos Worker/Heat and Frost Insulator	43.72	30.99
2) Boilermaker	38.34	26.01
3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	37.75	34.62 + a
3b) Tile Setter	37.1	30.52
3c) Terrazzo Mechanics and Marble Setters	31.69	22.35
3d) Tile, Marble & Terrazzo Finishers	31.07	24.23
3e) Plasterer	33.48	32.06

-----LABORERS-----

4) Group 1: Laborers (common or general), acetylene burners, concrete specialists, wrecking laborers, fire watchers.	32.0	24.40
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofer/mixer/nozzleman (Person running mixer and spraying fireproof only).	32.25	24.40
4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	32.5	24.40
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	33.0	24.40
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	32.75	24.40
4e) Group 6: Blasters, nuclear and toxic waste removal.	35.0	24.40
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	33.0	24.40
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	30.28	24.40
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	29.74	24.40
4i) Group 10: Traffic Control Signalman	18.0	24.40
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	36.07	26.15
5a) Millwrights	36.32	26.81

6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	39.6	31.21+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	58.9	36.885+a+b
-----LINE CONSTRUCTION-----		
Groundman	26.5	6.5% + 9.00
Linemen/Cable Splicer	48.19	6.5% + 22.00
8) Glazier (Trade License required: FG-1,2)	39.98	22.90 + a
9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection	38.17	38.02 + a
-----OPERATORS-----		
Group 1: Crane Handling or Erecting Structural Steel or Stone; Hoisting Engineer (2 drums or over). (Trade License Required)	50.27	26.80 + a
Group 1a: Front End Loader (7 cubic yards or over); Work Boat 26 ft. and Over	46.07	26.80 + a
Group 2: Cranes (100 ton rate capacity and over); Bauer Drill/Caisson. (Trade License Required)	49.91	26.80 + a
Group 2a: Cranes (under 100 ton rated capacity).	49.06	26.80 + a
Group 2b: Excavator over 2 cubic yards; Pile Driver (\$3.00 premium when operator controls hammer)	45.71	26.80 + a
Group 3: Excavator; Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Finegrade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	44.86	26.80 + a

Group 4: Trenching Machines; Lighter Derrick; CMI Machine or Similar; Koehring Loader (Skooper); Goldhofer.	44.42	26.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Spreader, Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24 mandrel).	43.73	26.80 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	43.73	26.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	43.38	26.80 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and under mandrel).	42.99	26.80 + a
Group 8: Mechanic; Grease Truck Operator; Hydroblaster; Barrier Mover; Power Stone Spreader; Welding; Work Boat Under 26 ft.; Transfer Machine; Rigger Foreman.	42.54	26.80 + a
Group 9: Front End Loader (under 3 cubic yards); Skid Steer Loader regardless of attachments; (Bobcat or Similar); Forklift, Power Chipper; Landscape Equipment (including Hydroseeder); Vacuum Excavation Truck and Hydrovac Excavation Truck (27 HG pressure or greater).	42.04	26.80 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	39.7	26.80 + a
Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	39.7	26.80 + a
Group 12: Wellpoint Operator.	39.63	26.80 + a
Group 13: Compressor Battery Operator.	38.97	26.80 + a

Group 14: Elevator Operator; Tow Motor Operator (solid tire no rough terrain).	37.66	26.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	37.2	26.80 + a
Group 16: Maintenance Engineer.	36.46	26.80 + a
Group 17: Portable Asphalt Plant Operator; Portable Crusher Plant Operator; Portable Concrete Plant Operator; Portable Grout Plant Operator; Portable Water Filtration Plant Operator.	41.39	26.80 + a
Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (Minimum for any job requiring a CDL license); Rigger; Signalman.	38.61	26.80 + a
-----PAINTERS (Including Drywall Finishing)-----		
10a) Brush and Roller	36.42	22.90
10b) Taping Only/Drywall Finishing	37.17	22.90
10c) Paperhanger and Red Label	36.92	22.90
10e) Blast and Spray	39.42	22.90
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	45.83	33.50
12) Well Digger, Pile Testing Machine	37.26	24.05 + a
13) Roofer (composition)	39.5	21.95
14) Roofer (slate & tile)	40.0	21.95

15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	40.08	40.53
16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	45.83	33.50
-----TRUCK DRIVERS-----		
17a) 2 Axle, Helpers	31.16	28.78 + a
17b) 3 Axle, 2 Axle Ready Mix	31.27	28.78 + a
17c) 3 Axle Ready Mix	31.33	28.78 + a
17d) 4 Axle	31.39	28.78 + a
17e) 4 Axle Ready Mix	31.44	28.78 + a
17f) Heavy Duty Trailer (40 Tons and Over)	33.66	28.78 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	31.44	28.78 + a
17h) Heavy Duty Trailer up to 40 tons	32.39	28.78 + a
17i) Snorkle Truck	31.54	28.78 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	47.55	29.38 + a
19) Theatrical Stage Journeyman	25.76	7.34

Welders: Rate for craft to which welding is incidental.

**Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

***Note: Hazardous waste premium \$3.00 per hour over classified rate*

Crane with 150 ft. boom (including jib) - \$1.50 extra

Crane with 200 ft. boom (including jib) - \$2.50 extra

Crane with 250 ft. boom (including jib) - \$5.00 extra

Crane with 300 ft. boom (including jib) - \$7.00 extra

Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page:

www.ct.gov/dol. For those without internet access, please contact the division listed below.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: May 13, 2022

STANDARD FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
ON THE BASIS OF A STIPULATED PRICE
B022-44 – Demolition of 100 Hanover Street and 104 Butler Street

THIS AGREEMENT is dated as of the _____ day of _____ 2022 by and between the City of Meriden, 142 East Main Street Meriden, CT 06450 hereinafter called OWNER and _____ hereinafter called CONTRACTOR.

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

Article 1. WORK.

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: furnish labor and materials to demolish properties located at 100 Hanover Street, Meriden, CT 06451 and 104 Butler Street, Meriden, CT 06451.

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows: furnish labor and materials to demolish properties located at 100 Hanover Street, Meriden, CT 06451 and 104 Butler Street, Meriden, CT 06451.

Article 2. ENGINEER.

The Project has been designed by Fuss & O'Neill, 146 Hartford Road, Manchester, CT 06040 who is hereinafter called ENGINEER and who is to act as Owner's representative, assume all duties and responsibilities and has the rights and authority assigned to ENGINEER in the Contract Documents in connection with completion of the Work in accordance with the contract documents.

Article 3. CONTRACT TIMES.

3.1 The Work will be substantially completed by _____, after the date when the Contract Times commence to run as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment in accordance with paragraph 14.07B of the General Conditions by _____ after the date when the Contract Times commence to run.

3.2 Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER Two Hundred Fifty Dollars **(\$250.00)** for each day that expires after the time specified in paragraph 3.1 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the time specified in paragraph 3.1 for completion and readiness for final payment or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER Two Hundred Fifty Dollars **(\$250.00)** for each day that expires after the time specified in paragraph 3.1 for completion and readiness for final payment.

Article 4. CONTRACT PRICE.

OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 4.1 and 4.2 below:

4.1. For all Work, other than Unit Price Work, a Lump Sum of:

Figures

Written

All specific cash allowances are included in the above price and have been computed in accordance with 11.02 of the General Conditions;

Plus

4.2. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item as indicated in this paragraph 4.2:

UNIT PRICE WORK

NO.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL ESTIMATED
-----	------	------	-----------------------	---------------	--------------------

TOTAL OF ALL UNIT PRICES:

_____	\$ _____
Written	Figures

As provided in paragraph 11.03 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.07 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03C of the General Conditions.

(The Bid may be attached. Any attachments and/or exhibits attached should be listed in Article 8).

If adjustment prices for variations from stipulated Base Bid quantities have been agreed to, insert appropriate provisions.

Article 5. PROGRESS PAYMENTS.

5.1 Based upon applications for Payment submitted to the Engineer by the Contractor and Certificates for Payment issued by the Engineer, the Owner shall make progress payments on account to the Contractor as provided below and elsewhere in the Contract Documents.

5.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

- 5.3 Each Application for Payment shall be based upon the Schedule of Values submitted by the Contractor in accordance with the Contract Documents. The Schedule of Values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Engineer may require. This Schedule, unless objected to by the Engineer, shall be used as a basis for reviewing the Contractor's Applications for Payment.
- 5.4 Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.
- 5.5 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

5.6.1 Take that portion of the Contract sum properly allocable to completed work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the work in the Schedule of Values, less retainage of five percent (5 percent). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in appropriate sections of the General Conditions even though the Contract Sum has not yet been adjusted by Change Order.

5.6.2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing) less retainage of five percent (5 percent).

5.6.3 Subtract the aggregate of previous payments made by the Owner; and

5.6.4 Subtract amounts, if any, for which the Engineer has withheld or nullified a Certificate for Payment as provided in Paragraph 14.02.B.5 of the General Conditions.

5.7 The progress payment amount determined in accordance with Paragraph 5.6 shall be further modified under the following circumstances;

(Not applicable)

5.7.1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to ninety-five percent (95) of the Contract Sum, less such amounts as the Engineer shall determine for incomplete Work and unsettled claims; and

5.7.2 Add, if final completion of the Work is thereafter materially delayed, through no fault of the Contractor, additional amounts payable in accordance with Paragraph 14.08 of the General Conditions.

5.8 Reduction or limitation of retainage, if any shall be as follows:

(Not applicable)

Article 6. INTEREST.

No interest shall be due or paid on any monies not paid when due.

Article 7. CONTRACTOR'S REPRESENTATIONS.

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

7.1. CONTRACTOR has examined and carefully studied the Contract Documents including the Addenda listed in paragraph 8 and the other related data identified in the Bidding Documents including "technical data."

7.2. CONTRACTOR has visited the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.

7.3. CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress, performance and furnishing of the Work.

7.4. CONTRACTOR has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions. CONTRACTOR accepts the determination of the extent of the "technical data" contained in such reports and drawings upon which CONTRACTOR is entitled to rely. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for Contractor's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to Underground Facilities at or contiguous to the site. CONTRACTOR has obtained and carefully studied assumes responsibility for having done so) all such additional supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the contract Documents.

7.5. CONTRACTOR 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 Contract Documents.

7.6. CONTRACTOR has correlated the information known to CONTRACTOR, information and observation obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.

7.7. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

Article 8. CONTRACT DOCUMENTS.

The Contract Documents, which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work, consist of the following:

8.1. This Agreement.

8.2. General Conditions and Supplemental General Conditions.

8.3. Notice of Award – **Attachment A**

8.4. Performance, Payment, and other Bonds – **Attachment B.**

8.5. Insurance certificate – **Attachment C**

8.6. Contractor's Bid Proposal, Non-Collusive Bid Statement, Bidder's Qualification Statement, St of CT Forms that are applicable - **Attachment D**

8.7. Connecticut Department of Labor – Wage and Workplace Standards Division.

8.8. **"By Reference"**: The complete Specifications as included in the bidding documents bearing the title.

8.9. **"By Reference"**: List of Drawings: Sheet No's. ____ through ____ included in the bidding documents.

The above documents are on file in the City of Meriden's Purchasing Department.

8.10. Addenda numbers ____.

(Those addenda which pertain exclusively to the bidding process need not be listed.)

8.11. The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All-Written Amendments and other documents amending, modifying or supplementing the Contract Documents pursuant to paragraphs 3.04 and 3.05 of the General Conditions.

There are no Contract Documents other than those listed above. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.04 and 3.05 of the General Conditions.

Article 9. MISCELLANEOUS.

9.1. Terms used in this Agreement which are defined in Article I of the General Conditions will have the meanings indicated in the General Conditions.

9.2. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

9.4. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

9.5 OTHER PROVISIONS.

Non-Discrimination and Affirmative Action Provisions

(A)(1) The Contractor agrees and warrants that in the performance of the Contract such Contractor will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, sexual orientation, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved, in any manner prohibited by the laws of the United States or of the state of Connecticut. The Contractor further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to of race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness, unless it is shown by such Contractor that such disability prevents performance of the work involved; (2) the Contractor agrees, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, to state that it is an "affirmative action-equal opportunity employer" in accordance with regulations adopted by the commission; (3) the Contractor agrees to provide each labor union or representative of workers with which such Contractor has a collective bargaining agreement or other contract or understanding and each vendor with which such Contractor has a contract or understanding, a notice to be provided by the commission advising the labor union or workers' representative of the Contractor's commitments under this section, and to post copies of the notice in conspicuous places available to employees and applicants for employment; (4) the Contractor agrees to comply with each provision of this section and sections 46a-68e and 46a-68f and with each regulation or relevant order issued by said commission pursuant to sections 46a-56, 46a-68e, 46a-68f and 46a-86; (5) the Contractor agrees to provide the Commission on Human Rights and Opportunities with such information requested by the commission, and permit access to pertinent books, records and accounts, concerning the employment practices and procedures of the Contractor as relate to the provisions of this section and section 46a-56.

(B) Any Contractor who is a party to a municipal public works contract or quasi-public agency project, where any such contract is valued at less than \$50,000 for each year of the contract, shall provide the Commission on Human Rights and Opportunities with a written or electronic representation that complies with the nondiscrimination agreement and warranty under subsection (A)(1) above, provided if there is any change in such representation, the Contractor shall provide the updated representation to the Commission not later than 30 days after such change. Any Contractor who is a party to a municipal public works contract or a quasi-public agency project, where any such contract is valued at \$50,000 or more for any year of the contract, shall provide the Commission with any one of the following: (1) Documentation in the form of a company or corporate policy adopted by resolution of the board of directors, shareholder, managers, members or other governing body of such Contractor that complies with the nondiscrimination agreement and warranty under subsection (A)(1) of this section; (2) Documentation in the form of a company or corporate policy adopted by a prior resolution of the board of directors, shareholders, managers, members or other governing body of such contractor if (a) the prior resolution is certified by a duly authorized corporate officer of such contractor to be in effect on the date the documentation is submitted, and the executive director of the Commission on Human Rights and Opportunities or designee certifies that the prior resolution complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section; or (3) Documentation in the form of an affidavit signed under penalty of false statement by a chief executive officer, president, chairperson or other corporate officer duly authorized to adopt company or corporate policy that certifies that the company or corporate policy of the contractor complies with the nondiscrimination agreement and warranty under subdivision (A)(1) of this section and is in effect on the date the affidavit is signed..

(C) If the Contract is a municipal public works contract or a quasi-public agency project, the Contractor agrees and warrants that s/he will make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such public works project. The Contractor shall include the provisions of subdivision (A)(1) of this section in every subcontract or purchase order entered into to fulfill any obligation of a municipal public works contract or contract for a quasi-public agency project, and such provisions shall be binding on a subcontractor, vendor or manufacturer, unless exempted by regulations or orders of the Commission on Human Rights and Opportunities. The Contractor shall take such action with respect to any such subcontract or purchase order as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance in accordance with section 46a-56; provided, if such Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Commission regarding a state contract, the contractor may request the state of Connecticut to enter into any such litigation or negotiation prior thereto to protect the interests of the state and the state may so enter.

(D) "Minority business enterprise" means any small contractor or supplier of materials fifty-one per cent or more of the capital stock, if any, or assets of which is owned by a person or persons: (1) Who are active in the daily affairs of the enterprise, (2) who have the power to direct the management and policies of the enterprise and (3) who are members of a minority, as such term is defined in subsection (a) of section 32-9n; and "good faith" means that degree of diligence which a reasonable person would exercise in the performance of legal duties and obligations. "Good faith efforts" shall include, but not be limited to, those reasonable initial efforts necessary to comply with statutory or regulatory requirements and additional or substituted efforts when it is determined that such initial efforts will not be sufficient to comply with such requirements. Determination of the Contractor's good faith efforts shall include, but shall not be eliminated to, the following factors: The contractor's employment and subcontracting policies, patterns and practices; affirmative advertising recruitment and training; technical assistance activities and such other reasonable activities or efforts as the Commission on Human Rights

and Opportunities may prescribe that are designed to ensure the participation of minority business enterprises in municipal public works contracts or quasi-public agency projects. "Municipal public works project" means that portion of an agreement entered into on or after October 1, 2015, between any individual, firm or corporation and a municipality for the construction, rehabilitation, conversion, extension, demolition or repair of a public building, highway or other changes or improvements in real property, which is financed in whole or in part by the state, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees but excluding any project of an alliance district, as defined in section 10-262u, finance by the state funding in an amount equal to fifty thousand dollars or less. "Quasi-public agency project" means the construction, rehabilitation, conversion, extension, demolition or repair of a building or other changes or improvements in real property pursuant to a contract entered into on or after October 1, 2015, which is financed in whole or in part by a quasi-public agency using state funds, including, but not limited to, matching expenditures, grants, loans, insurance or guarantees.

WITNESS WHEREOF, the parties hereto have affixed their names and seals.

THE CITY OF MERIDEN

CONTRACTOR:

Timothy P. Coon, City Manager
Duly Authorized

Duly Authorized

Date: _____

Date: _____

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology.....	1
1.01 Defined Terms	1
1.02 Terminology	5
Article 2 – Preliminary Matters.....	6
2.01 Delivery of Bonds and Evidence of Insurance.....	6
2.02 Copies of Documents	6
2.03 Commencement of Contract Times; Notice to Proceed	6
2.04 Starting the Work	7
2.05 Before Starting Construction.....	7
2.06 Preconstruction Conference; Designation of Authorized Representatives	7
2.07 Initial Acceptance of Schedules	7
Article 3 – Contract Documents: Intent, Amending, Reuse.....	8
3.01 Intent	8
3.02 Reference Standards	8
3.03 Reporting and Resolving Discrepancies	9
3.04 Amending and Supplementing Contract Documents	9
3.05 Reuse of Documents.....	10
3.06 Electronic Data	10
Article 4 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions; Reference Points	11
4.01 Availability of Lands	11
4.02 Subsurface and Physical Conditions	11
4.03 Differing Subsurface or Physical Conditions	12
4.04 Underground Facilities	13
4.05 Reference Points.....	14
4.06 Hazardous Environmental Condition at Site	14
Article 5 – Bonds and Insurance	16
5.01 Performance, Payment, and Other Bonds	16
5.02 Licensed Sureties and Insurers	16
5.03 Certificates of Insurance.....	17
5.04 Contractor’s Insurance.....	17
5.05 Owner’s Liability Insurance	19
5.06 Property Insurance	19
5.07 Waiver of Rights.....	20
5.08 Receipt and Application of Insurance Proceeds	21

5.09	Acceptance of Bonds and Insurance; Option to Replace.....	21
5.10	Partial Utilization, Acknowledgment of Property Insurer	22
Article 6 – Contractor’s Responsibilities		22
6.01	Supervision and Superintendence	22
6.02	Labor; Working Hours	22
6.03	Services, Materials, and Equipment.....	22
6.04	Progress Schedule.....	23
6.05	Substitutes and “Or-Equals”	23
6.06	Concerning Subcontractors, Suppliers, and Others	25
6.07	Patent Fees and Royalties.....	27
6.08	Permits	27
6.09	Laws and Regulations	28
6.10	Taxes.....	28
6.11	Use of Site and Other Areas	28
6.12	Record Documents	29
6.13	Safety and Protection.....	29
6.14	Safety Representative	30
6.15	Hazard Communication Programs	30
6.16	Emergencies.....	30
6.17	Shop Drawings and Samples.....	31
6.18	Continuing the Work	32
6.19	Contractor’s General Warranty and Guarantee.....	33
6.20	Indemnification.....	33
6.21	Delegation of Professional Design Services	34
Article 7 – Other Work at the Site		35
7.01	Related Work at Site.....	35
7.02	Coordination	35
7.03	Legal Relationships	36
Article 8 – Owner’s Responsibilities		36
8.01	Communications to Contractor	36
8.02	Replacement of Engineer	36
8.03	Furnish Data	36
8.04	Pay When Due	36
8.05	Lands and Easements; Reports and Tests	36
8.06	Insurance	36
8.07	Change Orders	37
8.08	Inspections, Tests, and Approvals.....	37
8.09	Limitations on Owner’s Responsibilities.....	37
8.10	Undisclosed Hazardous Environmental Condition	37
8.11	Evidence of Financial Arrangements	37
8.12	Compliance with Safety Program	37
Article 9 – Engineer’s Status During Construction		37
9.01	Owner’s Representative	37

9.02	Visits to Site.....	37
9.03	Project Representative.....	38
9.04	Authorized Variations in Work.....	38
9.05	Rejecting Defective Work.....	38
9.06	Shop Drawings, Change Orders and Payments.....	39
9.07	Determinations for Unit Price Work.....	39
9.08	Decisions on Requirements of Contract Documents and Acceptability of Work.....	39
9.09	Limitations on Engineer's Authority and Responsibilities.....	39
9.10	Compliance with Safety Program.....	40
Article 10 – Changes in the Work; Claims.....		40
10.01	Authorized Changes in the Work.....	40
10.02	Unauthorized Changes in the Work.....	41
10.03	Execution of Change Orders.....	41
10.04	Notification to Surety.....	41
10.05	Claims.....	41
Article 11 – Cost of the Work; Allowances; Unit Price Work.....		42
11.01	Cost of the Work.....	42
11.02	Allowances.....	45
11.03	Unit Price Work.....	45
Article 12 – Change of Contract Price; Change of Contract Times.....		46
12.01	Change of Contract Price.....	46
12.02	Change of Contract Times.....	47
12.03	Delays.....	47
Article 13 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work.....		48
13.01	Notice of Defects.....	48
13.02	Access to Work.....	48
13.03	Tests and Inspections.....	49
13.04	Uncovering Work.....	49
13.05	Owner May Stop the Work.....	50
13.06	Correction or Removal of Defective Work.....	50
13.07	Correction Period.....	50
13.08	Acceptance of Defective Work.....	51
13.09	Owner May Correct Defective Work.....	52
Article 14 – Payments to Contractor and Completion.....		52
14.01	Schedule of Values.....	52
14.02	Progress Payments.....	52
14.03	Contractor's Warranty of Title.....	55
14.04	Substantial Completion.....	55
14.05	Partial Utilization.....	56
14.06	Final Inspection.....	57
14.07	Final Payment.....	57
14.08	Final Completion Delayed.....	58

14.09 Waiver of Claims.....	58
Article 15 – Suspension of Work and Termination.....	59
15.01 Owner May Suspend Work.....	59
15.02 Owner May Terminate for Cause.....	59
15.03 Owner May Terminate For Convenience	60
15.04 Contractor May Stop Work or Terminate.....	60
Article 16 – Dispute Resolution.....	61
16.01 Methods and Procedures	61
Article 17 – Miscellaneous	61
17.01 Giving Notice	61
17.02 Computation of Times.....	62
17.03 Cumulative Remedies	62
17.04 Survival of Obligations	62
17.05 Controlling Law.....	62
17.06 Headings	62

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains equal to or more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 Terminology

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on

Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;
2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.

B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to establish that any “technical data” on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
2. is of such a nature as to require a change in the Contract Documents; or
3. differs materially from that shown or indicated in the Contract Documents; or
4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer’s Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner’s obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer’s findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor’s cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and

contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the

consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also

meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained;

- a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
 2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
 3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
 4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
 5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
 6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;
 2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors,

members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.

- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's

interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and

- c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be

required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner,

Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

- 1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
- 2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
- 3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought

by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and

shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is

required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. Engineer's Review:

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. Resubmittal Procedures:

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 - 1. observations by Engineer;
 - 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. use or occupancy of the Work or any part thereof by Owner;
 - 5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
 - 6. any inspection, test, or approval by others; or
 - 7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
1. written notice thereof will be given to Contractor prior to starting any such other work; and
 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.
- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 3. the extent of such authority and responsibilities will be provided.

- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or

continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not

exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data

shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of

said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not

limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
 1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
 1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to

the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or

neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or
 2. correct such defective Work; or
 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments:

- 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an

Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or

- involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before

final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 - 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying

documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
 1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
 2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when

so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 - 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days

to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 - 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 - 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 - 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTAL GENERAL CONDITIONS

GENERAL CONDITIONS

The General Conditions of the Contract for Construction, EJCDC Document C-700, 2007 Edition, as bound herewith, shall be the General conditions of the Contract, except as amended by these Supplemental General Conditions

CHANGES AND ADDITIONS TO VARIOUS ARTICLES OF THE GENERAL CONDITIONS

Article 1 Definitions

Article 1 is hereby modified as follows:

Delete the definition "Notice to Proceed"

Article 2 Preliminary Matters

Article 2.02 is modified as follows:

DELETE Article 2.02 in its entirety

Article 2.03 is modified as follows:

30th day is changed to 10th day, and delete "A Notice to Proceed...earlier"

Article 3 Reporting and Resolving Discrepancies

Article 3.03A.# - change "unless" to "that" and add knowledge thereof, or should have had knowledge of....

Article 4 Availability of lands

Article 4.01B – delete "as necessary for giving notice of or filing a mechanics or construction lien against such lands in accordance with applicable Laws & Regulations."

Article 4.06G – Hazardous Environmental Conditions at Site - Delete in its entirety

Article 5 Bonds and Insurance

Delete Article 5 in its entirety and substitute the following:

PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND

The Contractor shall, within ten (10) days from the date of the Notice of Award, furnish the City of Meriden with a PERFORMANCE BOND and a LABOR AND MATERIAL PAYMENT BOND, both in the amount of 100% of the amount bid, conditioned upon the performance of the Contractor on all undertaking, covenants, terms, and conditions and agreements of the contract. The bond shall be in the form of the specimen bonds annexed hereto, such bonds shall be executed by the contractor and a corporate bonding company licensed, authorized, and admitted to transact such business in the State of Connecticut and named on the current list of "Surety Companies acceptable on Federal Bonds", as published in the "Treasury Department" listed for an amount equal to the amount of the reinsurance. Written evidence of how any excess suretyship has been placed by the surety signing the bonds shall accompany the bonds. The expense of the bonds shall be borne by the Contractor. If at anytime a surety on any such bond is declared bankrupt or loses its right to do business in the State of Connecticut, or is removed from the list of Surety Companies acceptable on Federal Bonds, or for any other justifiable cause, the Contractor shall, within ten (10) days after notice from the City of Meriden to do so. substitute an acceptable bond(s) in such form and sum and signed by such other surety or sureties as may be

paid by the Contractor. No payments shall be deemed due nor shall be made until the new surety or sureties have furnished an acceptable bond to the City.

If the Contractor is a partnership, the bonds shall be signed by each of the individuals who are partners; if a corporation, the bonds shall be signed in the correct corporation name by a duly authorized office, agent, or attorney-in-fact. There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the contract. Each executed bond shall be accompanied by 1) appropriate acknowledgements of the respective parties; 2) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer, or other representative of Contractor or surety; 3) a duly certified extract from by-laws or resolutions or surety under which Power of Attorney or other certificates of authority of its agent, officer, or representative was issued.

The Contractor hereby agrees and understands that a Notice of Award is expressly conditional upon the receipt of these bonds and a Certificate of Insurance naming the City of Meriden (and others as appropriate) as ADDITIONAL INSURED. If said documents are not received by the City of Meriden within ten (10) days from the date of Notice of Award, the City of Meriden reserves the right to withdraw its conditional acceptance of the bid and cancel the Notice of Award.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

(here insert full name and address or legal title of Contractor)

as Principal hereinafter called contractor and

(here insert full name and address or legal title of Surety)

As Surety, hereinafter called Surety, are held and firmly bound unto

(here insert full name and address or legal title of Owner)

As Obligee, hereinafter called Owner, in the amount of

Dollars \$ _____

for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated

(here insert full name, address and description of project)

20 , entered into a contract with Owner for

In accordance with Drawings and Specifications prepared by (here insert full name and address or legal title of Engineer/Architect)

Which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

PERFORMANCE BOND

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor, shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives, notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the surety may promptly remedy the default, or shall promptly

1) Complete the Contract in accordance with its terms and conditions, or

2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default of a succession of

defaults, under the contract or contracts of completion arranged under this paragraph sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and sealed this

day of

20

(Witness)

(Witness)

(Principal)

(Title)

(Surety)

(Title)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that

(here insert full name and address or legal title of Contractor)

as Principal, hereinafter called Principal, and

(here insert full name and address or legal title of Surety)

As Surety, hereinafter called Surety, are held and firmly bound unto

(here insert full name and address or legal title of Owner)

As Obligee, hereinafter called Owner, for the use and benefit of claimants as hereinbelow defined, in the amount of Dollars \$ _____

For the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated

(here insert full name, address and description of project)

20 , entered into a contract with Owner for

In accordance with Drawings and Specifications prepared by

(here insert full name and address or legal title of Engineer/Architect)

which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

LABOR AND MATERIAL PAYMENT BOND

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

a) Unless claimant, other than one having a direct contact with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial

accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelop addressed to the Principal Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the Project or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

Signed and sealed this

day of

20

(Witness)

(Witness)

(Principal)

(Title)

(Surety)

(Title)

INSURANCE REQUIREMENTS

*

All insurance coverage shall be provided by the Contractor and by or for any of their Subcontractors at no additional expense to the City. The scope and limits of insurance coverages specified are the minimum requirements and shall in no way limit or exclude the City from requesting additional limits and coverage provided under the Contractor's policies and/or their Subcontractors' policies. The Contractor shall either require each of their Subcontractors to produce identical insurance coverage requirements as detailed hereinafter or the Contractor shall secure the coverage for all Subcontractors under the Contractor's own policies.

The Contractor and/or Subcontractors shall be responsible for maintaining the stated insurance coverage in force for the life of the Contract with insurance carriers licensed and authorized to underwrite such insurance in the State of Connecticut. (Insurance carriers shall be rated A or higher by AM Best Co.)

The type and limits of insurance coverage shall not be less than the type and limits designated herein, and the Contractor and/or Subcontractors agree that the coverage or the acceptance by the City of Certificates of Insurance indicating the type and limits of insurance shall in no way limit the liability of the Contractor and/or subcontractor to any such type and limits of insurance coverage.

The insurance coverage hereinafter afforded by the Contractor and/or subcontractor shall be primary insurance, except when stated to apply in excess of or contingent upon the absence of other insurance. The amount and type of insurance shall not be reduced by the existence of other insurance's held by the City.

The Contractor and/or Subcontractor shall provide coverage's that are not impaired or the aggregate is not to be impaired by any other risk, past or present, and the limits required, shall be fully available to the City of Meriden or restored if depleted below the required levels during the course of the contract and/or any extensions thereto.

The Contractor and/or Subcontractor shall not commence work under the terms of this contract until they have obtained the liability insurance coverage required by this article and has filed Certificates of Insurance on same with the City, and the City has approved the Certificates of Insurance and the represented coverage.

Each Certificate of Insurance shall include the following pertinent information:

- Name of Insurance Carrier writing policy
- Name Insured
- Address of Named Insured
- Description of coverage (Workers' Compensation certificates should evidence the state(s) of operation including Connecticut)
- Policy Periods (effective and expiration dates)
- Limits of liability and terms
- Brief description of operations performed and property covered
- Name and address of certificate holder
- Authorized agent's name and address
- Date and signature of the issuing agent (original only)
- All additional named insured endorsement
- All cross liability endorsements
- All indemnification and hold harmless agreements (must be supported by Contractual Liability Insurance)

Each insurance policy (with the exception of OCP shall contain an endorsement naming the City as an Additional Insured, evidence of a Cross Liability endorsement so that each insureds interests are considered and treated separately in the case of claims between the insureds. The Contractor shall provide 60 Day advance Notification** to the City in the event of any material change, modification, cancellation, or non-renewal of insurance coverage.**

**Amended 01/13/14

The Contractor and/or Subcontractors shall include a waiver of subrogation rights, on all insurance policies, so that the City of Meriden cannot be sued by the Contractor's insurer to recover any payments made on behalf of the Contractor and/or Subcontractor.

All insurance policies provided by the Contractor and/or Subcontractors shall include an endorsement indicating that any breach of warranty, by the named insured, will not be imputed to another insured.

During the course of execution of the work, whenever there is a lapse in the insurance requirements as stated herein, through cancellation, expiration, failure to renew , or any other cause, the City shall order the cessation of all activities** until such time as the insurance requirements are complied with. The Contractor shall have no claim or claims whatever against the City, or other parties to the contract.

**Amended 01/13/14

The Contractor and their Subcontractors shall indemnify and save harmless the City of Meriden, and all additional named insured and all appointed or elected officers, officials, directors, committee members, employees, volunteer workers, commissioners, and any affiliated, associated, or allied entities and/or bodies of, or as may be participated in by the City of Meriden, or as may now or hereinafter be constituted or established from and against all claims, damages, and losses and expenses including attorney's fees arising out of or resulting from the performance of the work under this contract, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to, or destruction of tangible property, including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the Contractor, and their Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

The Contractor and their Subcontractors shall, during the execution of the work, take necessary precautions and place proper guards for the prevention of accidents; shall set up all night suitable and sufficient lights and barricades; shall fully comply with the latest revisions of the Occupational Safety and Health Act of 1970 and all other Federal, State and Local Regulations, including any all amendments, revisions, and additions thereto, and shall indemnify and save harmless the City of Meriden and their additional named insured and their employees, officers, agents from any and all claims, suits, actions, fines, fees, damages, and costs to which they may incur by reason of death or injury to all persons and/or for all property damage of another resulting from non-compliance, unskillfulness, willfulness. negligence, or carelessness in the execution of the work, or in guarding or protecting the same, or from any improper methods, materials, implements or appliances used in execution of the work, or by or on account of any direct or indirect act or omission of the Contractor of their Subcontractors or their employees or agents.

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the execution of the contract.

The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to; 1) all employees on the work and all other persons who may be affected thereby; 2) all the work and all the materials and equipment to be incorporated therein, whether in storage in or on the site, under the care, custody, or control of the Contractor or any of their Subcontractors; and 3) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designed for removal, relocation, or replacement in the course of construction.

The Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities.

The Contractor and/or subcontractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders for any public authority bearing on the safety of persons or property or their protection from damage, injury, or loss.

When The use or storage of explosives or other hazardous materials or equipment is necessary for the execution of work, the Contractor and/or their Subcontractors shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

The contractor shall designate a responsible member of their organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the City.

In any emergency affecting the safety of persons or property, the Contractor shall act to prevent threatened damage, injury, or loss.

The Contractor, Subcontractor, and their insurer(s) shall waive governmental immunity as a defense and shall not use the defense of governmental immunity in the adjustment of claims or in the defense of any suit, action or claim brought against the City. Nothing shall limit the City of Meriden from utilizing the defense of governmental immunity.

Contractor shall agree to maintain in force at all times during the contract the following minimum coverages and shall name the City Meriden as an Additional Insured on a primary and non-contributory basis to all policies except Workers Compensation. All policies should also include a Waiver of Subrogation. Umbrella/Excess shall state that it follows form over General Liability, Auto Liability and Workers Compensation. Insurance shall be written with Carriers approved in the State of Connecticut and with a minimum AM Best's Rating of "A-" VIII. In addition, all Carriers are subject to approval by the City of Meriden.

		(Minimum Limits)
General Liability	Each Occurrence	\$1,000,000
	General Aggregate	\$2,000,000
	Products/Completed Operations Aggregate	\$2,000,000
Auto Liability	Combined Single Limit	
	Each Accident	\$1,000,000
Umbrella (Excess Liability)	Each Occurrence	\$1,000,000
	Aggregate	\$1,000,000
Workers' Compensation and Employers' Liability	WC Statutory Limits	
	EL Each Accident	\$1,000,000
	EL Disease Each Employee	\$1,000,000
	EL Disease Policy Limit	\$1,000,000

Original, completed Certificates of Insurance must be presented to the City of Meriden prior to contract issuance. Contractor agrees to provide replacement/renewal certificates at least 60 days prior to the expiration date of the policies.

Article 6 Substitutes and "or equals"

Article 6.05.2.A – After Contractor add "or Owner"

Article 6.05.2.2E – Substitute Items - Add the words "If, in the owner's opinion, the number of substitutions is excessive" after "reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitutes".

Add the following paragraph 6.09D:

The requirements of subparagraph 6.09 do not waive the Contractor's responsibility of complying with the requirement of the Contract Documents when such regulations and requirements exceed those of any laws, ordinances, rules, regulations and orders of any public authority bearing the work.

Delete Article 6.10 in its entirety and substitute the following:

Under the terms of Regulation 16, referring to Contractors and Subcontractors issued by the State Tax Commission in administration of the State Sales and Use Tax, the Contractor may purchase materials or supplies to be consumed in the performance of this Contract without payment of Tax and shall not include in his Bid nor charge any Sales or Use Tax on any materials or labor provided.

Amend Article 6.12 to read:

“Contractor shall maintain in a safe place at the Site two (2) record copies...”

Add the following to article 6.13:

6.13.A.4 Protection in general shall consist of the following:

6.13.A.5 The Contractor shall furnish approved hard hats, other personal, protective equipment as required, approved first aid supplies, name of first aid attendant, and a posted list of emergency facilities.

6.13.A.6 The Contractor shall take prompt action to correct any hazardous conditions reported.

6.13.A.7 The Contractor shall be responsible for the adequate strength and safety of all scaffolding, staging and hoisting equipment, and for temporary shoring, bracing and tying.

The Contractor shall comply with the requirements of the Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, including all Standards and Regulations which have been promulgated by the Governmental Authorities which administer such acts; and said Requirements, Standards and Regulations are incorporated herein by reference.

The Contractor shall be directly responsible for compliance therewith on the part of its agents employees, material men and Subcontractors, and shall directly receive and be responsible for all citations, assessments, fines or penalties which may be incurred by reason of its agents, employees, material men or Subcontractors, to so comply.

The Contractor shall indemnify the Owner and the Engineer and save them harmless from any and all losses, costs and expenses, including fines and reasonable attorney’s fees incurred by the Owner and the Engineer by reason of the real or alleged violation of such laws, ordinances, regulations and directives, Federal, State and local, which are currently in effect or which become effective in the future, by the Contractor, his Subcontractors or material men.

6.16 Emergencies

Add 6.16.B – The Contractor shall provide the Owner with at least two (2) phone numbers in case of emergency.

Article 8 – Replacement of Engineer

Delete 8.02 in its entirety

8.06 – Insurance

8.06A – Delete Article 5, Add Supplemental General Conditions

Article 9 - Engineer's Status During Construction

Revise 9.03.B to read:

In addition to the Engineer, The Owner may employ a Clerk-of- the Works shall be authorized to observe all material, workmanship and equipment for compliance with the Contract Documents' requirements of tests and safety provisions, and report any variance to the Engineer. He shall have no authority to interpret, vary or suspend the requirements of the Contract.

The Clerk-of-the-Works will keep records of material deliveries, weather conditions and manpower; he will monitor compliance with the approved Construction Schedule and the Equal Employment Provisions.

The Contractor shall cooperate with the Clerk-of-the-Works in the performance of his duties, and shall provide access to all portions of the work and information required for his records. Any requests for modification of the Contract provisions or working procedures shall be reviewed with the project representative prior to making submittal(s) to the Engineer.

Cost of Work, Allowances; Unit Price Work

Article 11 is hereby modified as follows:

Add the following Articles:

11.03D Delete the entire paragraph and substitute the following:

It is understood and agreed that the prices bid for the various units of construction shall control in any Contract awarded hereafter. The City of Meriden reserves the right to revise the estimated quantities with no fixed limits set nor extra compensation allowed other than the above stated unit prices.

Article 12 – Change of Contract Price and Change of Contract Time

Add the following:

12.01.B.4 - The Contractor, when performing work under article 11.3.3 shall, upon request, promptly furnish in a form satisfactory to the Owner, itemized statements of the cost of the work so ordered, including, but not limited to, certified payrolls, and copies of accounts, bills and vouchers to substantiate the above estimates.

Add 12.04.1 -The Contractor guarantees that he can and will complete the work within the time specified or within the time as extended as provided elsewhere in the Contract Documents. Inasmuch as the damage and loss to the City of Meriden which will result from the failure of the Contractor to complete the work within the stipulated time will be most difficult or impossible of accurate assessment, the damages to the City for such delay and failure on the part of the Contractor shall be liquidated in the sum of \$250.00 each calendar day (Sundays and Holidays included) by which the Contractor shall fail to complete the work or any part thereof in accordance with the provisions hereof and such liquidated damages shall not be considered as a penalty. The City will deduct and retain out of any money due to become due hereunder, the amount of liquidated damages, and in case those amounts are less than the amount of liquidated damages, the Contractor shall be liable to pay the difference upon demand by the City.

Article 13 - Warranty and Guarantee; Tests and Inspections; Correction, Removal or Acceptance of Defective Work

Article 13.02 is modified to include the following:

The Contractor shall make every effort to minimize damage to all access routes, and he shall acquire all necessary permits for working in, on or from public streets or rights of way and for securing access rights of their own.

All costs of the removal and restoration to original condition of walls, fences and structures, utility lines, poles, guy wires or anchors, and other improvements required for passage of the Contractor's equipment shall be borne by the Contractor. The Contractor shall notify the proper authorities of the City and all utilities of any intended modifications or disruption to their property prior to the start of construction, and shall cooperate with them in the scheduling and performance of this operation.

Article 14 Payments to Contractor and Completion

Modify 14.02.D.4 to read:

Payments may be withheld to Contractors who are in default through debt or contract to the City.

14.07C – Change “thirty days” to “forty five (45) days”

Delete 14.09A in its entirety.

Article 15 Suspension of work and termination

Delete 15.03.3 in its entirety.

15.04B – Change 30 to 45 and change “30 days to pay” to 60.

Hazardous Materials Abatement Specifications

104 Butler Street, Meriden, Connecticut

City of Meriden
Meriden, Connecticut

March 4, 2022



FUSS & O'NEILL

Fuss & O'Neill, Inc.

146 Hartford Road
Manchester, CT 06040

TABLE OF CONTENTS

SECTION B – TECHNICAL SPECIFICATIONS

Division 1	Section 01 22 00	Unit Prices
Division 2	Section 02 41 16	Building Demolition
	Section 02 82 13	Asbestos Abatement
	Section 02 82 14	Asbestos Roofing Abatement
	Section 02 83 19	Lead Paint Awareness
	Section 02 84 16	Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury

DRAWING

Building Demolition Drawing SD-100

ATTACHMENT

Attachment A Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Asbestos Building Materials Inspection Report dated December 1, 2021 (Attachment A).

SECTION 01 22 00 – UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. A unit price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the project Scope of Work is altered.
- B. Unit prices include material, any direct or indirect expenses of the Contractor or Sub-Contractor, profit, insurance, bonding, and any applicable taxes. The same unit price shall apply whether the work is added or deducted.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

- A. Unit Prices in accordance with the following schedule will apply to this Contract.

Item No. 1 – MINI CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (up to 100 SF of material removal)

\$ _____ per containment

Item No. 2 – SMALL CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (>100-250 SF of material removal)

\$ _____ per containment

Item No. 3 – MEDIUM CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (>250-750 SF of material removal)

\$ _____ per containment

Item No. 4 – LARGE CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (>750-2,500 SF of material removal)

\$ _____ per containment

Item No. 5 – ROOF FLASHING REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 6 - TANK VAULT ROOF REMOVAL AND DISPOSAL AS ACM

\$ _____ per square foot

Item No. 7 – VAPOR BARRIER BELOW CONCRETE SLAB REMOVAL AND DISPOSAL AS ACM

\$ _____ per square foot

Item No. 8 – SPRAY APPLIED WATER/DAMPPROOFING ON FOUNDATION WALLS REMOVAL AND DISPOSAL AS ACM.

\$ _____ per square foot

Item No. 9 – BLACK COATING ON WALL OF TANK VAULT REMOVAL AND DISPOSAL AS ACM.

\$ _____ per square foot

Item No. 10 – BOILER DUCTWORK SEAM SEALANT REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 11 – GASKET BETWEEN BURNER AND BOILER REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 12 – GASKET ASSOCIATED WITH 3” PIPE REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 13 – GASKET ASSOCIATED WITH 6” PIPE REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 14 – GASKET ASSOCIATED WITH 12” PIPE REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 15 – SQUARE GASKET ASSOCIATED WITH DEAN BROTHERS EQUIPMENT REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 16 – WHITE ROPE BOILER DOOR GASKET REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 17 – GRAY BOILER DOOR CEMENT REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 18 – LIGHT GRAY FIBROUS INSULATION ON TANKS MOUNTED ABOVE BOILERS REMOVAL AND DISPOSAL AS ACM

\$ _____ each

Item No. 19 – RED COATING ON BOILER BRICKS REMOVAL AND DISPOSAL AS ACM

\$ _____ per square foot

Item No. 20 – WHITE ROPE ASSOCIATED WITH BOILERS REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 21 – WHITE ELECTRICAL WIRE FABRIC WRAP REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 22 – BLACK ELECTRICAL WIRE FABRIC WRAP REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

END OF SECTION 01 22 00

SECTION 02 41 16 - BUILDING DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Asbestos Building Materials Inspection Report dated December 1, 2021 (Attachment A).
- C. Asbestos Abatement Section 02 82 13.
- D. Asbestos Roofing Abatement Section 02 82 14.
- E. Lead Paint Awareness Section 02 83 19
- F. Handling of Lighting Ballasts and Lamps Containing DEHP and Mercury Section 02 84 16.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of buildings and vault.
 - 2. Abandoning in-place below-grade construction.
 - 3. Disconnecting, capping, or sealing, and abandoning in-place site utilities.
 - 4. Salvaging items for reuse by Owner.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged.
- B. Demolish: Completely remove and legally dispose of off-site.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
 - 1. Carefully salvage items requested by the Owner in a manner to prevent damage.

1.5 SUBMITTALS

- A. Qualification Data:
 - 1. Demolition Contractor Qualifications

- a. Connecticut Department of Public Safety Class A Demolition Contractor Certificate.
 2. For refrigerant recovery technician if required.
 3. Licensed professional engineer.
 - B. Proposed Protection Measures: Submit informational report, including Drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.
 1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain.
 - C. Schedule of Building Demolition Activities: Indicate the following:
 1. Detailed sequence of demolition work, with starting and ending dates for each activity.
 2. Shutoff and capping of utility services.
 - D. Pre-demolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by demolition operations. Submit before the Work begins.
 - E. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
 - F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- 1.6 QUALITY ASSURANCE
- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
 - B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
 - C. Standards: Comply with ANSI/ASSE A10.6 Standard for Safeguarding Construction, Alteration, and Demolition Operations and NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.
 - D. Demolition Firm Qualifications: An experienced firm that has completed work similar in material and extent to that indicated for this Project.
 1. Connecticut Class A licensed demolition firm.
 - E. Pre-demolition Conference: Conduct conference at **104 Butler Street, Meriden, Connecticut.**

1. Inspect and discuss condition of construction to be demolished.
2. Review structural load limitations of existing structures.
3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review and finalize protection requirements.
5. Review procedures for protection of adjacent buildings.

1.7 PROJECT CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.
- B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.
 1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
 2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
 - a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.
- C. Owner assumes no responsibility for buildings and structures to be demolished.
 1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- D. Hazardous Materials:
 1. Hazardous materials shall be removed by Contractor in accordance with Sections 028213, 028310, and 028416 and the Asbestos Abatement Plan in Exhibit A.
 2. If additional materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner.
- E. On-site storage or sale of removed items or materials is not permitted.
- F. Utility Locator Service: Comply with state laws pertaining to notifying utility companies prior to excavation. Notify Call Before You Dig at least 72 hours, exclusive of weekends and legal holidays, before site clearing. Notification must be made no more than 30 days prior to the date of excavation.
- G. The site is a regulated site under the CTDEP Hazardous Waste Management Regulations.

1.8 COORDINATION

- A. Arrange demolition schedule so as not to interfere with operations of adjacent occupied buildings.

- B. Owner to provide a list of items to be salvaged to the Contractor prior to the start of demolition.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DEMOLITION CONTRACTOR

- A. Demolition Contractor:
 - 1. Connecticut Class A licensed demolition firm.

3.2 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting demolition operations.
- B. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.
 - 1. Steel Tendons: Locate tensioned steel tendons (if applicable) and include recommendations for de-tensioning.
- D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.3 PREPARATION

- A. Refrigerant: Remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction before starting demolition.
- B. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.
 - 1. Owner will arrange to shut off indicated utilities when requested by Contractor.
 - 2. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.

- C. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.

- 1. Strengthen or add new supports when required during progress of demolition.

3.4 PROTECTION

- A. Existing Facilities: Protect adjacent building facilities during demolition operations. Maintain exits from existing buildings.

- B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.

- 1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
 - 2. Notify Engineer not less than five days in advance of proposed utility interruptions.
 - 3. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.
 - a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.

- C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated.

- 1. Protect adjacent buildings and facilities from damage due to demolition activities.
 - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
 - 3. Protect adjacent waterway(s) and resource areas from all falling debris.
 - 4. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
 - 5. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 6. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
 - 7. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
 - 8. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.
 - 9. Protect site fences that are to remain and that are exposed to building demolition operations.
 - 10. Install fabric screen or other device to protect surrounding areas.

- D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

- E. Store items identified by the owner to be salvaged in a secure location on site through the duration of demolition activities unless directed otherwise by the owner.

3.5 DEMOLITION, GENERAL

- A. General: Demolish indicated buildings completely. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 - 2. Maintain fire watch during and for at least 24 hours after flame cutting operations.
 - 3. Maintain adequate ventilation when using cutting torches.
 - 4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Engineering Surveys: During demolition, perform surveys to detect hazards that may result from building demolition activities.
- C. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
 - 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- D. Explosives: Use of explosives is not permitted.

3.6 DEMOLITION BY MECHANICAL MEANS

- A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
- B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.
- C. Below-Grade Construction: Abandon foundation walls and other below-grade construction. Cut below-grade construction as indicated on the drawings.
 - 1. Core holes within bottom of vaults, chases, and below grade slabs to facilitate drainage.
- D. Existing Utilities: Demolish existing utilities and below-grade utility structures as indicated.

1. Fill abandoned utility structures with recycled pulverized concrete.
2. Piping: Disconnect piping at unions, flanges, valves, or fittings.
3. Wiring Ducts: Disassemble into unit lengths and remove plug-in and disconnecting devices.
4. Remove and Dispose Electrical Utilities
 - a. Includes wiring, and lighting equipment.
 - b. Coordinate with Eversource.
5. Remove and Dispose Telecommunication Utilities
 - a. Includes wiring and equipment.
 - b. Coordinate with service provider.
6. Disconnecting gas service shall be conducted by utility provider.
 - a. Coordinate with Eversource.
7. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:
 - a. Close open ends of piping with at least 8-inch-thick, brick masonry bulkheads.
 - b. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.
8. Abandoned Manholes: Excavate around manhole as required and use either procedure below:
 - a. Remove manhole and close open ends of remaining piping.
 - b. Remove top of manhole down to at least 36 inches below final grade.

3.7 SITE RESTORATION

- A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations as indicated on the drawings.
- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades. Furnish finished grade material as indicated on the drawings.

3.8 REPAIRS

- A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.9 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials not used as backfill from Project site.
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Do not burn demolished materials.

3.10 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

- 1. Clean roadways of debris caused by debris transport.

END OF SECTION 02 41 16

SECTION 02 82 13 – ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Asbestos Building Materials Inspection Report dated December 1, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Roofing Abatement Section 02 82 14.
- E. Lead Paint Awareness Section 02 83 19
- F. Handling of Lighting Ballasts and Lamps Containing DEHP and Mercury Section 02 84 16.

1.2 CONSULTANT

- A. The Owner and/or Architect shall retain a Consultant for the purposes of project management and monitoring during Asbestos Abatement activities. At the discretion of the Owner, the Consultant will represent the Owner during the abatement project. The Asbestos Abatement Contractor (the "Contractor") will regard the Consultant's direction as authoritative and binding as provided herein, in matters particularly, but not limited to the following:
 - 1. Approval of work areas
 - 2. Review of monitoring results
 - 3. Completion of the various segments of work
 - 4. Final completion of the abatement
 - 5. Submission of data
 - 6. Daily field punch list items
- B. The State of Connecticut-licensed Asbestos Consultant – Project Designer for this project is Carlos Texidor (License No. 000275).

1.3 SCOPE OF WORK

- A. Work outlined in this Section includes all work necessary for the removal, packaging, transporting, and disposing of asbestos-containing materials (ACM) and asbestos impacted materials during the demolition project (the "Work") at 104 Butler Street in Meriden, Connecticut (the "Site"). This Work under this Contract includes, but is not limited to, asbestos abatement within and outside of the 104 Butler Street building.

- B. This scope of work includes necessary selective demolition to access ACM scheduled for abatement.

1.4 USE OF THE CONTRACT DOCUMENTS

- A. It shall be incumbent upon the Contractor to visit the Site and determine what exists, its condition, and what will be required to accomplish the Work intended by the Contract Documents. No increase in the Contract Sum will be permitted as a result of the Contractor's failure to visit the Site and understand the existing conditions.
- B. All work shall comply with the Contract Documents and with applicable codes, laws, regulations, and ordinances wherever applicable. The most stringent of all the foregoing shall govern the Work.
- C. It is not intended that the Specifications show every detail of the Work, but the Contractor shall be required to furnish within the Contract Sum all material and labor necessary for the completion of the Work in accordance with the intent of these Specifications.
- D. In case of ambiguity among the Contract documents, the more stringent requirement as determined by the Consultant shall prevail.
- E. The Work of this Contract includes making modifications as necessary, subject to approval by the Owner in consultation with the Consultant to correct any conflicts.
- F. All items not specifically mentioned in the Specifications, but implied by trade practices to complete the Work, shall be included.

1.5 SITE EXAMINATION

- A. It is understood that the Contractor has examined the Site and made their own estimates of the facilities and difficulties attending the execution of the Work and has based their price thereon.
- B. Except for unforeseeable concealed conditions as determined by the Consultant, the Contractor shall make no claim for additional cost due to the existing conditions at the Site.

1.6 CONTRACTOR QUALIFICATIONS

- A. All bidders shall submit a record of prior experience in asbestos abatement projects, listing no less than three completed projects in the past year, with all projects of similar size and scope. The Contractor shall list the experience and training of the project foremen and all on-site personnel. The information that should be included is as follows:
 - 1. Project Name and Address
 - 2. Owner's Name and Address
 - 3. Architect/Consultant
 - 4. Contract Amount
 - 5. Date of Completion
 - 6. Extras and Changes

- B. The Contractor selected must appear on the approved list of Asbestos Abatement Contractors on file at the State of Connecticut Department of Public Health (CTDPH) and hold a valid license for asbestos abatement within the State of Connecticut.
- C. Submit a written statement regarding whether the Contractor has ever been cited for non-compliance with federal, state, or local asbestos, lead, and/or polychlorinated biphenyl (PCB) regulations pertaining to worker protection, removal, transport, or disposal.

1.7 TESTING LABORATORY SERVICES

- A. The Contractor shall submit to the Consultant the name; address and qualifications of proposed laboratories intended to be utilized for sample analysis as required by this Section.

1.8 ADDITIONAL GENERAL REQUIREMENTS

- A. The Contractor shall employ a competent CTDPH-licensed Asbestos Abatement Supervisor with at least three years of experience on projects of similar scope and magnitude who shall be responsible for all work involving asbestos abatement as described in the specifications and defined in applicable regulations and have full-time daily supervision of the same. The Supervisor shall be the competent person as defined by Occupational Safety and Health Administration (OSHA) regulations.
- B. If required by federal, state, local, and any other authorities having jurisdiction over such work, the Contractor shall allow the work of this contract to be inspected. The Contractor shall immediately notify the Owner and Consultant and shall maintain written evidence of such inspection for review by the Owner and Consultant.
- C. The Contractor shall incur the cost of all fines resulting from regulatory non-compliance as issued by federal, state, and local agencies. The Contractor shall incur the cost of all work requirements mandated by federal, state, and local agencies as a result of regulatory non-compliance or negligence.
- D. The Contractor shall immediately notify the Owner and Consultant of the delivery of all permits, licenses, certificates of inspection, of approval, or occupancy, etc., and any other such instruments required under codes by authorities having jurisdiction, regardless of who issued, and shall cause them to be displayed to the Owner and Consultant for verification and recording.

1.9 PROJECT DESCRIPTION

- A. The base bid includes the removal, packaging, transporting, and disposing of all ACM as identified herein conducted by workers meeting the requirements of OSHA Title 29 CFR, Part 1926.1101 for Class 1 and 2 work. This shall include all necessary demolition to access the ACM for abatement.
- B. Materials as discovered outside of those listed (either above or below) will be measured and paid or credited by unit prices. The quantities are estimates only and should be verified by the Contractor.

C. The base bid includes the following ACM:

BASE BID – ASBESTOS

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY	NOTES
Tank Vault	Tank vault roof	1,000 SF	1, 2, 4, 5
Beneath Concrete Slab	Vapor Barrier Below Concrete Slab	3,876 SF	1, 2, 4, 5
Exterior foundation walls	Spray applied water/damp proofing on foundation walls	1,800 SF	1, 2, 4, 5
Tank Vault	Black coating on wall of tank vault;	50 SF	1, 2, 4, 5
Second Floor, West Side	Boiler ductwork seam sealant (Assumed Present)	120 LF	1, 2, 4
Boilers	Gasket between burner and boiler	2 EA	1, 2, 4
Ground Floor	Gasket associated with 3" pipe	20 EA	1, 2, 4
Second Floor	Gasket associated with 6" pipe	20 EA	1, 2, 4
Second Floor	Gasket associated with 12" pipe	25 EA	1, 2, 4
Second Floor	Square gasket associated with Dean Bros equipment	10 EA	1, 2, 4
Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers	4 Tanks	1, 2, 4
Second Floor	Boiler Number 1 and 2 - Complete Removal of all materials as ACM, Packaging, Transporting, & Disposing as Contaminated Friable ACM.	2 Boilers	1, 2, 4
Ground Floor	White electrical wire fabric wrap	Throughout, Assumed ~300 LF	1, 2, 4
Second Floor	Black electrical wire fabric wrap	Throughout, Assumed ~300 LF	

Notes:

- Quantities shall be verified by Contractor during the time of the walk-through. Discrepancies of amounts and/or locations of asbestos-containing materials shall be addressed prior to bidding the work to the Owner and Consultant.
- Contractor shall construct a negative pressure containment on every floor of the former powerhouse.
- Boiler will be completely dismantled under full negative pressure containment. Contractor shall dispose all asbestos-containing materials associated with the boiler. All exterior and interior components are presumed asbestos-containing and must be disposed of as ACM. The contractor shall remove all other boiler components that

- are not ACM as clean construction debris or scrap metal. The contractor is responsible to remove the boiler from the powerhouse in it's entirety (includes all metal and non-asbestos materials). Contractor shall retain licensed qualified Boiler Technicians to drain any heating fuel from pipes attached to Boiler # 1 and 2
4. The Contractor shall demolish/remove components that are necessary to access the asbestos contaminated materials and/or facilitate establishing the work area for example but not limited to cabinets, bottom of wall systems, brick, windows, doors, radiators, wood, metal, masonry, stone, lights, ductwork, counters, flooring materials, wall materials, ceiling materials, roof materials, façade materials etc. If any of the materials to be removed to access asbestos and/or to facilitate establishing the work area are contaminated with asbestos debris the materials shall be appropriately or disposed of as asbestos. If any of the materials will disturb asbestos the removal of such materials shall be conducted after the asbestos containment has been approved by the Owner's Authorized Representative.
 5. All exterior removal.
- D. Some of the Work will be performed in multiple mobilizations, at different periods of time, in conjunction with other trades (i.e., other trades work, demolition work, etc.).
- E. Safety Data Sheets (SDS) for chemicals to be used during the project must be submitted to the Consultant prior to site delivery.
- F. Encapsulants applied to any surface that will receive a new finish that requires an adhesive must be compatible with the application of the new finish.
- G. The Contractor shall be responsible for providing temporary water, power, and heat as needed at the Site to perform the work required. Temporary lighting within the work areas must be connected to Ground Fault Circuit Interrupter (GFCI) power panels installed by a State of Connecticut-licensed electrician, permitted as required, and located outside of the work areas.
- 1.10 DEFINITIONS
- A. The following definitions relative to asbestos abatement apply:
1. Abatement: Procedures to control fiber release from ACM; includes removal, encapsulation, and enclosure.
 2. Air Monitoring: The process of measuring the total airborne fiber concentration of an area, or a person.
 3. Amended Water: Water to which a surfactant (wetting agent) has been added.
 4. Architect: EDM: a person or firm professionally engaged in the design of certain large constructions other than buildings and the like.
 5. 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.

6. Asbestos-Containing Materials: For the purpose of this project design, an asbestos containing material is any building material categorized by EPA as a surfacing material, thermal system insulation, or miscellaneous that contains any amount of asbestos (as defined above) based on the analytical methodology adopted by the project designer for application to subject building materials at the Site.
7. Asbestos Felt: A product made by saturating felted asbestos with asphalt, or other suitable bindery, such as a synthetic elastomer.
8. Asbestos Fibers: Those particles with a length greater than five (5) microns and a length to diameter ratio of 3:1 or greater.
9. 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 shall comply with requirements of regulated area for demarcation, access, respirators, prohibited activities, competent persons and exposure assessments and monitoring.
10. 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).
11. 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.
12. 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/mm²) of air will denote acceptable clearance sampling for Transmission Electron Microscopy (TEM).
13. 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 shall be properly trained in accordance with EPA's Model Accreditation Plan (MAP).
14. Consultant: Fuss & O'Neill, Inc.: A company retained by the Owner with State of Connecticut-licensed asbestos designer and asbestos project monitors to provide services enumerated in this section during asbestos abatement.
15. 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.
16. 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.

17. Dampproofing: Application of a water impervious material to surface (such as a wall) to prevent penetration of moisture, typically at foundation or below grade surface.
18. 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.
19. 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).
20. 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.
21. Fixed Object: Unit of equipment or furniture in the work areas that cannot be removed from the work area.
22. Friable Asbestos Materials: Any material that contains more than 1% asbestos by weight, that can be crumbled, pulverized, or reduced to powder by hand pressure.
23. 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.
24. HEPA Filter: High Efficiency Particulate Air (HEPA) filter in compliance with ANSI Z9.2 1979.
25. HEPA Vacuum Equipment: Vacuum equipment fitted with a HEPA filter system for filtering the effluent air from the unit.
26. Movable Object: Unit of equipment or furniture in the work area that can be removed from the work area.
27. 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.
28. NESHAP: National Emission Standards for Hazardous Air Pollutants regulations enforced by the EPA.
29. Owner: The City of Meriden: An employee or executive who has the principal responsibility for a process, program, or project.
30. 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 shall be responsible for maintaining work areas in a manner that this standard is not exceeded.
31. Project Monitor: A professional capable of conducting air monitoring and analysis of schemes. This individual should be an industrial hygienist, an environmental scientist, or a Consultant 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.

32. RCRA: The Resource Conservation and Recovery Act (EPA Title 40 CFR, Parts 260 - 265).
33. 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.
34. 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.
35. Totally Enclosed Manner: A manner that will ensure no exposure of human beings or the environment to a concentration of asbestos.
36. 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.
37. 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.

1.11 SUBMITTALS

- A. The Contractor shall submit the following to the Consultant in one complete package prior to the pre-construction meeting, and no later than 10 business days prior to the anticipated start of the 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. Submit a schedule to the Owner and the Consultant that defines a timetable for executing and completing the project, including work area preparations, removal, cleanup, decontamination, and final clearance air monitoring (if applicable).
 3. Submit the current valid State of Connecticut Asbestos Abatement Contractor license and certificate of insurance.
 4. 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.
 5. Submit the plans and construction details for the construction of the decontamination systems and the isolation of the work areas as may be necessary for compliance with this specification and applicable regulations.
 6. Submit the CTDPH license, training, medical, and respirator fit test records of each employee who may be on the Site.
 7. 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.
 8. Submit detailed product information on all materials and equipment proposed for asbestos abatement work on this project. This includes Safety Data Sheets (SDS) on all products and chemicals that may be used on the project.

9. Submit pertinent information regarding the qualifications of the Project Supervisor (competent person) for this project, as well as a list of past projects completed.
10. Submit a chain-of-command for the project.
11. Submit a site-specific Emergency Action Plan for the project. The Plan may include emergency procedures to be followed by Contractor personnel to evacuate the building, hospital name, phone number, and most direct transportation route from the Site, emergency telephone numbers, etc.
12. 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).
13. Proposed electrical safeguards to be implemented by a qualified Electrical Contractor, including but not limited to, location of transformers, GFCI outlets, lighting, and power panels necessary to safely perform the project, including a description of electrical hazards and a safety plan for common practices in the work area. This may also include safety plan for temporary lighting, extension cord and other powered equipment used in the work area (locations, daily inspections, etc.).
14. 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.
15. No work on the Site will be allowed to begin until the Owner/Architect and the Consultant as listed herein approve the Pre-Construction Submittals. Any delay caused by the Contractor's refusal or inability to submit this documentation in a timely manner does not constitute a cause for change order or a time extension;

- B. The Contractor shall submit the following to the Consultant during the Work:
1. Copies of personal air sampling results (Consultant will not review or provide any direction or advice regarding results). The Contractor shall be responsible for proper sample analytical review and personal protective equipment (PPE) selection and use. Records are retained solely for project record.
 2. Copies of training, CTDPH certifications, fit test records, and medical records for new employees to start work (24-hours in advance) and prior to the new employee arriving at the Site.
 3. Carbon copies from waste shipment record, waste manifest records, bill of lading or other waste tracking record for all specified materials.
 4. Copies of daily log sheets, daily sign-in sheets, and containment sign-in sheets.
- C. The Contractor shall submit the following to the Consultant at the completion of the Work. The Owner reserves right to retain payment(s) until all items are received in completion:
1. Original final completed copies of the waste shipment records, signed by all transporters and the designated disposal site owner/operator.
 2. Original final completed copies of bill of lading, weight tickets, recycling tickets, and manifests for all specified materials.
 3. Contractor's logs (daily activity logs, daily sign in sheets, containment sign-in sheets), and all worker training, CTDPH certifications, medical records, and respirator fit test records.
 4. Copies of all OSHA personal monitoring results.

1.12 REGULATIONS AND STANDARDS

- A. The Contractor shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state, and local regulations and guidelines pertaining to asbestos abatement. Specifically, the Contractor shall comply with the requirements of the following:
1. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulations (Title 40 CFR, Part 61, Subpart M);
 2. EPA Asbestos Hazards Emergency Response Act (AHERA) Regulations (Title 40 CFR, Part 763, Subpart E);
 3. OSHA Asbestos Regulations (Title 29 CFR, Parts 1910.1001 and 1926.1101);
 4. Department of Transportation (DOT) Hazardous Waste Transportation Regulations (Title 49 CFR, Parts 170 – 180);
 5. Connecticut Department of Energy and Environmental Protection (CTDEEP) Regulations (Section 22a-209-8(i) and Section 22a-220 of the Connecticut General Statutes);
 6. CTDPH Standards for Asbestos Abatement (Sections 19a-332a-1 to 19a-332a-16);
 7. CTDPH Licensing and Training Requirements for Persons Engaged in Asbestos Abatement and Asbestos Consultant Services (Sections 20-440-1 to 20-440-9 and Section 20-441);
 8. 2003 International Building Code as adopted by the 2005 State of Connecticut Building Code including the 2009, 2011, 2013, 2016, and 2018 amendments;

9. Life Safety Code, National Fire Protection Association (NFPA); and
10. Local health and safety codes, ordinances or regulations pertaining to asbestos remediation and all national codes and standards including American Society of Testing and Materials (ASTM), American National Standards Institute (ANSI), and Underwriter's Laboratories (UL).

1.13 EXEMPTIONS

- A. Any deviations from these specifications require the written approval and authorization from the Owner and Consultant. Any deviations that may impact the bid cost shall be delineated with the bid for the Architect/Owner to review.
- B. Any modifications from the standard work practices identified in the CTDPH Standards for Asbestos Abatement, Sections 19a-332a-1 to 19a-332a-16 must be requested in writing and approved in writing by the CTDPH. The Consultant shall develop the Alternative Work Practice (AWP) application on behalf of the Owner. If the Contractor intends to request an AWP for this project, the nature of the AWP shall be disclosed in the bid documents and the cost savings associated with said AWP shall be provided for the Owner's consideration. An AWP shall not be filed without prior Owner's and Consultant's approval.

1.14 FINAL RE-OCCUPANCY AIR CLEARANCE (If Required)

- A. Following the completion of the encapsulation phase of the work, the Consultant shall collect final re-occupancy clearance air samples inside the work area per CTDPH Standards for Asbestos Abatement (19a-332-1 to 19a-332-16).
- B. The Owner shall be responsible for payment of the sampling and analysis of the initial final air clearance samples only. The Contractor shall be responsible for 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 shall not conduct demolition or other removal activities during final re-occupancy air clearance sampling.

1.15 NOTIFICATIONS, POSTINGS, SUBMITTALS, AND PERMITS

- A. The Contractor shall make the following notifications and provide the submittals to the following agency prior to the start of work. The CTDPH notification is required 10 calendar days prior to start of the abatement project and the EPA notification is required 10 business days prior to the start of the abatement project.
 1. Connecticut Department of Public Health
410 Capitol Avenue
MS #12 AIR
P.O. Box 340308
Hartford, CT 06134-0308

2. United States Environmental Protection Agency (USEPA)
Jordan Alves (alves.jordan@epa.gov)
Region 1- New England (OEP05-2)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

B. The minimum information included in the notification to these agencies includes:

1. Name and address of building Owner/Operator
2. Building location
3. Building size, age, and use
4. Amount of asbestos to be removed
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

1.16 WORK SITE SAFETY PLAN

A. The Contractor shall establish a set of emergency procedures and shall post them in a conspicuous place at the 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.
4. Local telephone numbers for emergency services including ambulance, fire, and police.
5. A method to notify occupants of the building in the event of a fire or other emergency requiring evacuation of the building.

B. The Contractor shall be responsible for training all workers in these procedures.

1.17 INDEPENDENT AIR SAMPLING AND ASBESTOS ABATEMENT MONITORING

A. This Section describes independent air sampling work being performed on behalf of the Owner. This work is not in the Contract Sum. This Section describes air monitoring conducted by the Consultant to verify that the building beyond the work area and the outside environment remains uncontaminated. (Personal air monitoring required by OSHA is work to be performed by the Contractor and is within the Contract Sum). Negative exposure assessments will not be reviewed and/or approved by the Consultant. It shall be the Contractor's responsibility to determine its validity.

B. The purpose of the Consultant's air monitoring is to verify proper engineering controls in the work area:

1. Contamination of the building outside of the work area by airborne fibers.
2. Failure of filtration or rupture in the differential pressure system.
3. Contamination of air outside the building envelope by airborne fibers.

- C. Should any of the above occur, the Contractor shall immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Consultant.
- D. The Consultant may monitor total airborne fiber concentrations in the work area. The purpose of this air monitoring will be to detect total airborne fiber concentrations, which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.
- E. To determine if the elevated total airborne fiber concentrations encountered during abatement operations have been reduced to an acceptable level, the Consultant will sample and analyze air in accordance with clearance air sampling requirements.
- F. The Consultant may perform on-site monitoring throughout the project, as follows:
 - 1. All work procedures shall be continuously monitored by the Consultant to assure that areas outside the designated work locations in the buildings will not be contaminated.
 - 2. Prior to work on any given day, the Contractor's designated "competent person" shall discuss the day's work schedule with the Consultant to evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the building or the employees. This includes a visual work area inspection and the building or the employee decontamination. This includes a visual inspection of the work area and the decontamination enclosure systems.

1.18 CONTRACTOR'S AIR SAMPLING RESPONSIBILITY

- A. The Contractor shall independently retain an air sampling professional, or the CTDPH-licensed Asbestos Abatement Supervisor shall monitor total airborne fiber concentrations in the worker breathing zones, and to establish conditions and work procedures for maintaining compliance with OSHA Title 29 CFR, Parts 1910.1001 and 1926.1101.
- B. The Contractor's air sampling professional shall document all air sampling results and provide a report to the Consultant within 48 hours after sample collection.
- C. All air sampling shall be conducted in accordance with methods described in OSHA Title 29 CFR, Parts 1910.1001 and 1926.1101.

1.19 PROPER WORKER PROTECTION

- A. This Section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.
- B. All workers are to be accredited as Abatement Workers as required by the EPA AHERA Title 40 CFR, Parts 763 Appendix C to Subpart E, February 3, 1994.
- C. The Contractor is required to be certified and accredited as required by CTDPH.
- D. In accordance with OSHA Title 29 CFR, Part 1926, all workers shall receive a training course covering the dangers inherent in handling asbestos, the dangers of breathing asbestos dust,

proper work procedures, and proper worker protective measures. This course must include, but is not limited to the following:

1. Methods of recognizing asbestos
 2. Health effects associated with asbestos
 3. Relationship between smoking and asbestos in producing lung cancer
 4. Nature of operations that could result in exposure to asbestos
 5. Importance of and instruction in the use of necessary protective controls, practices, and procedures to minimize exposure including:
 - a. Engineering controls
 - b. Work Practices
 - c. Respirators
 - d. Housekeeping procedures
 - e. Hygiene facilities
 - f. Protective clothing
 - g. Decontamination procedures
 - h. Emergency procedures
 - i. Waste disposal procedures
 6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by OSHA Title 29 CFR, Part 1910.134
 7. Appropriate work practices for the work
 8. Requirements of medical surveillance program
 9. Review of OSHA Title 29 CFR, Part 1926
 10. Pressure Differential Systems
 11. Work practices including hands on or on job training
 12. Personal Decontamination procedures
 13. Air monitoring, personal and area
- E. The Contractor shall provide medical examinations for all workers who may encounter a total airborne fiber concentration of 0.1 fibers/cc or greater for an 8-hour TWA. In the absence of specific airborne fiber data provide medical examinations for all workers who will enter the work area for any reason. Examination shall, at a minimum, meet OSHA requirements as set forth in Title 29 CFR, Part 1926. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.
- F. Submit the following to the Consultant for review. The Contractor shall not start work until these submittals are returned with Consultant action stamp indicating that they are approved.
1. Submit copies of certificates from an EPA approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation Title 40 CFR, Part 763 Appendix C to Subpart E, February 3, 1994.
 2. Submit evidence that the Contractor is certified to perform asbestos abatement work by the CTDPH.
 3. Submit documents verifying that each worker has had a medical examination within the last 12 months as part of compliance with OSHA medical surveillance requirements. Submit, at a minimum, for each worker the following:

- a. Name and Social Security Number (minimum last 4 digits, optional)
 - b. Physician's written opinion from examining physician including at a minimum the following:
 - 1) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - 2) Any recommended limitations on the worker or on the use of PPE such as respirators.
 - 3) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
 4. Copy of information that was provided to physician in compliance with OSHA Title 29 CFR, Part 1926.
 5. Statement that worker is able to wear and use the type of respiratory protection proposed for the project and is able to work safely in an environment capable of producing heat stress in the worker.
 6. Effective June 4, 2000, submit copies of certificates for the site supervisor and the workers issued by CTDPH.
- G. Submit certification signed by an officer of the abatement-contracting firm and notarized that exposure measurement, medical surveillance, and worker training records are being kept in conformance with OSHA Title 29 CFR, Part 1926.
- H. The Contractor shall maintain control of and be responsible for access to all work areas to ensure the following requirements:
1. Non-essential personnel are prohibited from entering the area.
 2. All authorized personnel entering the work area shall read the "Worker Protection Procedures" that are posted at the entry points to the enclosure system and shall be equipped with properly fitted respirators and protective clothing.
 3. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated.
 4. Asbestos waste that is removed from the work area must be properly bagged and labeled in accordance with these Specifications. The surface of the bags shall be decontaminated. Asbestos waste removed from the NPE must be immediately transported off-site or immediately placed in locked, posted temporary storage on-site, and removed within 24 hours of the project conclusion.
 5. Any material, equipment, or supplies that are removed from the decontamination enclosure system shall be thoroughly cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

PART 2 - PRODUCTS

2.1 MATERIALS

- 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. Material that becomes contaminated with asbestos shall be decontaminated or disposed as asbestos waste.
- C. Polyethylene (poly) sheeting in a roll size to minimize the frequency of joints shall be delivered to the Site with factory label indicating 6-mil.
- D. Poly disposable bags shall be 6-mil with OSHA required pre-printed label (29 CFR, Part 1926.1101(k)(8)(iii)). Tie wraps for bags shall be plastic, five inches long (minimum), pointed and looped to secure filled plastic bags.
- E. Tape or adhesive spray will be capable of sealing joints in adjacent poly sheets and for attachment of poly sheet 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) shall consist of 50 percent polyoxyethylene ether and 50 percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of one ounce surfactant to five gallons of water or as directed by manufacturer.
- G. Removal encapsulant shall be non-flammable factory prepared penetrating chemical encapsulant deemed acceptable to Consultant. Usage shall be in accordance with manufacturer's printed technical data.
- H. The Contractor shall have available spray equipment capable of mixing wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.
- I. 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 shall be labeled in accordance with OSHA Title 29 CFR, Part 1926.1101(k)(8)(iii) [June 1, 2015, requirements]. Containers must be both air and watertight.
- J. Labels and signs, as required by OSHA Title 29 CFR, Part 1926.1101, will be used.
- K. Encapsulant shall be bridging or penetrating type which has been deemed acceptable to the Consultant. Usage shall be in accordance with manufacturer's printed technical data.
- L. HEPA filtered local exhaust ventilation shall be utilized during the installation of enclosures and supports where ACM may be disturbed.

2.2 TOOLS AND EQUIPMENT

- A. The Contractor shall provide all clean tools and equipment necessary for asbestos removal, encapsulation, and enclosure.
- B. The Contractor's air monitoring professional or Abatement Supervisor shall have air monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements. The equipment shall function properly, and

air samples shall be calibrated with a recently calibrated (within 6 calendar months and annually thereafter) rotometer.

- C. The Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, poly sheeting of proper size and thickness, tape, and air filters.
- D. The Contractor shall provide (as needed) temporary electrical power panels, electrical power cables, and electrical power sources (such as generators). Any electrical connection work affecting the building electrical power system shall be performed by a State of Connecticut-licensed electrician.
- E. The Contractor shall be responsible for coordinating electrical and water services and shall pay for these services for the duration of the project, if applicable.
- F. The Contractor shall assist the Consultant by providing necessary tools and equipment (e.g., coveralls, ladders, extension cords, lighting, etc.) for the Consultant to conduct inspections, final visual inspections, and final air clearance monitoring. The Consultant reserves the right to reject such items that are deemed unsafe and/or do not function properly and request items be replaced with adequate replacements. The work areas shall be safe to enter/occupy by the Consultant.
- G. The Contractor shall have available shower stalls and plumbing to support same to include sufficient hose length and drain system or an acceptable alternate.
- H. Exhaust air filtration system units shall contain HEPA filter(s) capable of sufficient air exhaust to create negative air pressure of at a minimum -0.02 inches of water column within enclosure with respect to outside area. Digital monometers shall be supplied for Class 1 work or Class II work if wet removal not occurring, or removal is not intact. Equipment shall be checked for proper operation by smoke tubes or differential pressure gauge before the start of each shift and at least twice during the shift. Adequate exhaust air shall be provided for a minimum of four (4) air changes per hour within the NPE. All exhaust tubes shall be routed outside through secured openings to prevent people from access into the building. The exhaust shall be away from any air intakes or openings to the building or where people may come in contact with exhausted air. No air movement system or air filtering equipment shall discharge unfiltered air. The Contractor will have reserve units so that the station system will operate continuously.
- I. Vacuum units, of suitable size and capacities for the project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter or larger.

PART 3 - EXECUTION

3.1 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 shall present a detailed project schedule and project submittals at the Pre-Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed, and the Owner and the Consultant will inform the Contractor of any scheduling adjustments for this project.
- C. Following the Pre-Construction meeting, the Contractor shall submit a revised schedule (if needed) no later than one week after the meeting.

3.2 WORK AREA PREPARATION FOR INTERIOR ABATEMENT

- A. Where necessary, deactivate electrical power, including receptacles and light fixtures. Under no circumstances during the decontamination procedures will lighting fixtures be permitted to be operating when amended water spray may contact the fixture. Provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All installations are to be made by a State of Connecticut-licensed electrician, permitted as required, and located outside the work areas.
- B. Temporary power shall be continuous power. Portable generators for use during asbestos abatement are not authorized.
- C. Deactivate and/or isolate heating, ventilation, and air conditioning (HVAC) air systems or zones to prevent contamination and fiber dispersal to other areas of the building or structure. During the work, vents within the work area shall be covered with two layers of 6-mil poly, and completely sealed with duct tape.
- D. The Contractor shall be responsible for removing furniture, equipment, and any other materials to be salvaged from the work areas. Contractor shall be responsible for removing all solid waste within the work areas (if applicable). The Contractor shall pre-clean moveable objects within the proposed work areas using HEPA filtered vacuum equipment and/or wet cleaning methods as appropriate and remove such objects from work areas. Non-porous materials (i.e., metal) shall be cleaned, visually inspected by a project monitor prior to removal from the work areas and recycling/disposal as solid waste.
- E. Completely seal all openings, including, but not limited to, windows, corridors, doorways, skylights, ducts, grills, diffusers, and any other penetration of the work areas, with poly sheeting a minimum of 6-mil thick, and sealed with duct tape. This includes doorways and corridors that will not be used for passage during work areas and occupied areas.

- F. Pre-clean fixed objects within the work areas, using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and enclose with a minimum 6-mil poly sheeting completely sealed with duct tape.
- G. Clean the proposed work areas using HEPA vacuum equipment or 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 cleaning, cover fixed walls and floors. All seams and joints shall be sealed with tape or equivalent. Floor covering shall consist of at least two layers of 6 mil polyethylene and must cover at least the bottom 12 inches of adjoining wall. Wall covering shall consist of a minimum of two layers of 4 mil polyethylene sheet which shall overlap the floor covering to prevent leaks. There shall be no seams in the polyethylene sheet at the wall-to-floor joints. Ceiling covering shall consist of at least two layers of 4-mil polyethylene if applied on existing ceiling system or, if not applied directly to existing system (essentially serving as large critical barrier), the ceiling shall consist of one layer of 6-mil polyethylene sheeting and two layers of 4-mil polyethylene sheeting.
- I. Maintain emergency and fire exits from the work areas or establish alternate exits satisfactory to fire officials.
- J. Clean and remove ceiling mounted objects, such as lights and other items not sealed-off, which interfere with asbestos abatement. Use handheld amended water spraying or HEPA vacuuming equipment during fixture removal to reduce settled fiber dispersal.
- K. Create pressure differential between work areas and uncontaminated areas by the use of acceptable negative air pressure equipment sufficient to provide four air changes per hour and create negative air pressure of at a minimum -0.02 inches of water column within enclosure with respect to outside area as measured on a water gauge.

3.3 DECONTAMINATION SYSTEM

- A. The Contractor shall establish contiguous to the work area, a decontamination system consisting of equipment room, shower room, and clean room, in series. The only access between contaminated and uncontaminated areas shall be through this decontamination enclosure. If it is not feasible to erect a contiguous decontamination system, the Contractor shall establish a remote decontamination unit in as close proximity to the work area as is feasible. For exterior work, the Contractor shall establish a remote decontamination system abutting the perimeter of the regulated work area.
- B. Access between rooms in the decontamination system shall be through double-flap curtained openings. The clean room, shower, and equipment room within the decontamination enclosure, shall be completely sealed ensuring that the sole source of airflow through this area originates from uncontaminated areas outside the work area.
- C. The Contractor shall establish contiguous with the work area an equipment decontamination enclosure consisting of two totally enclosed chambers divided by a double-flapped curtained

opening. This enclosure must be constructed so as to ensure no personnel enter or exit through this unit.

- D. Occupied areas and/or building space not within the work areas shall be separated from asbestos abatement work areas by means of airtight barriers.
- E. Construct the decontamination enclosure system with wood or metal framing, cover both sides with a double layer of 6-mil poly sheeting, completely sealed with spray adhesive, and taped at the joints.
- F. If a Consultant is retained for pre-abatement services, the Contractor and the Consultant shall visually inspect the barriers several times daily to assure effective seal and the Contractor shall repair defects immediately.

3.4 ASBESTOS REMOVAL PROCEDURE - GENERAL

- A. The Contractor shall have a designated "competent person" on the Site at all times to ensure establishment of a proper enclosure system and proper work practices throughout project.
- B. Abatement work will not commence until authorized by the Consultant.
- C. The Contractor shall properly coordinate abatement work with other trades, new construction, and Site use. The Contractor shall be responsible for addressing any concerns by the Owner and/or Consultant.
- D. With a fine mist, spray ACM with amended water using airless spray equipment or apply approved removal wetting agent to reduce the release of fibers during removal operation.
- E. To maintain indoor asbestos concentrations to the minimum, the wet asbestos must be removed in manageable sections. Material drop shall not exceed 8 feet. For heights up to 15 feet, provide inclined chutes or scaffolding to intercept drop.
- F. Remove ACM as appropriate by standard methods. Fill disposal containers as removal proceeds; seal filled containers and clean containers before removal to equipment decontamination enclosure system. Wet clean each container thoroughly, double bag and apply caution label. Ensure that workers do not exit the work area thorough the equipment decontamination enclosure.
- G. After completion of stripping work, all surfaces from which asbestos has been removed shall be wet brushed, using a nylon brush, wet wiped, and sponged or cleaned by an equivalent method to remove all visible material (wire brushes are prohibited). During this work, the surfaces being cleaned shall be kept wet.
- H. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos contaminated debris. During cleanup, utilize brooms, rubber dustpan, and rubber squeegees to minimize damage to floor covering.
- I. Sealed disposal containers and all equipment used in the work area shall be included in the cleanup and shall be removed from work areas via the equipment decontamination enclosure

at an appropriate time in the cleaning sequence. All asbestos waste in 6-mil poly disposal bags shall be double-bagged in the equipment decontamination enclosure before removal from the Site.

- J. At any time during asbestos removal, should the Consultant suspect contamination of areas outside the work area(s), they shall cause all abatement work to stop until the Contractor takes the necessary steps to decontaminate these areas, and eliminate the causes of such contamination. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections certify decontamination.
- K. After completion of the initial final cleaning procedure including removal of the inner layers of poly sheeting, but prior to encapsulation, a pre-sealant inspection shall be conducted by the Consultant. The pre-sealant inspection shall verify that ACM and residual dust has been removed from the work area.

3.5 ASBESTOS REMOVAL PROCEDURES FOR EXTERIOR NON-FRIABLE MATERIALS

- A. Exterior non-friable materials which are not RACM as defined by the EPA and CTDPH are not required to be removed within a contained negative pressure enclosed work area in the State of Connecticut. This applies as long as the proposed methods of removal will not render the non-friable materials RACM during proposed removal operations.
- B. The Contractor shall have a designated "competent person" on the job at all times to ensure proper work practices throughout the project.
- C. The Contractor shall regulate the work area as required for compliance with OSHA regulation Title 29 CFR, Part 1926.1101 to prohibit non-trained workers from entering areas where ACM are to be removed.
- D. The Contractor shall establish worker decontamination unit remote from the work area.
- E. The Contractor shall spray ACM with amended water using airless spray equipment or apply approved removal wetting agent to ensure no visible emissions during removal of non-friable materials.
- F. After completion of stripping/removal work, all surfaces from which ACM has been removed shall be wet cleaned or cleaned by an equivalent method to remove all visible suspect ACM (wire brushes are prohibited). During this work, the surfaces being cleaned shall be kept adequately wet, without causing a safety hazard or creating puddles or runoff.
- G. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris. Waste shall be containerized in labeled and signed 6-mil poly disposable bags. Tie wraps for bags shall be plastic, 5 inches long (minimum), pointed and looped to secure filled plastic bags.
- H. At any time during asbestos abatement should the Consultant suspect contamination of areas outside the work area(s), they shall issue a stop work order until the Contractor takes required

steps to decontaminate these areas, and to eliminate the causes of such contamination. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections indicate acceptable decontamination.

- I. The Consultant shall conduct a final visual inspection of the work area. If residual suspect ACM debris is identified during the course of the final inspection, the Contractor shall comply with the Consultant's request to render the area clean of all residual ACM.

3.6 CONSULTANT'S RESPONSIBILITIES

- A. Air sampling may be conducted by the Consultant to ascertain the integrity of the controls that protect the building from asbestos contamination. Independently, the Contractor shall monitor air quality within the work area to ascertain the protection of employees, and to comply with OSHA regulations.

- B. The Consultant's Asbestos Project Monitor (herein "Consultant") may collect and analyze air samples during the following period:

1. Abatement Period. If required, or retained for this service, the Consultant shall collect samples on a daily basis during the work period. A sufficient number of area samples shall 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 Consultant, additional air samples may be collected inside the work area and decontamination enclosure system.
 - a. If the Consultant determines that the building air quality has become contaminated from the abatement project, they shall immediately inform the Contractor to cease all removal operations and implement a work stoppage clean-up procedure. The Contractor shall conduct a thorough clean-up of the building areas designated by the Consultant. No further removal work may occur until the Consultant has determined through air sample collection and analysis that the airborne fiber concentrations are at or below the CTDPH re-occupancy standard.

- C. The Consultant shall collect and analyze air samples during the following period:

1. Post-Abatement Period. If required, the Consultant shall conduct air sampling following the final clean-up phase of the project, once the "no visible residue" criterion, as established by the Consultant, has been met and the work area has been encapsulated by the Contractor. Five air samples shall be collected inside the work area utilizing aggressive methods to comply with the CTDPH Standards for Asbestos Abatement Section 19a-332a-12.
 - a. Final re-occupancy air clearance sampling shall be conducted by the Consultant in accordance with the CTDPH requirements using one of the following methods:
 - 1) Transmission Electron Microscopy (TEM) method with an average limit of less than 70 s/mm² of filter surface.

- 2) Phase Contrast Microscopy (PCM) with a total airborne fiber concentration limit of less than or equal to 0.010 fibers/cc.
- D. The Owner shall be responsible for payment for the initial final clearance air sampling performance only. If the first set of samples fail to satisfy the re-occupancy criteria, the Contractor shall be responsible for payment of all costs associated with the additional final clearance air sampling and analysis.
- E. The Consultant shall 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.
- F. Pre-abatement and abatement air samples shall be collected as required to obtain a volume of 1,200 liters. Samples shall be analyzed by PCM NIOSH 7400 Method.

3.7 CONSULTANT'S INSPECTION RESPONSIBILITIES

- A. The Consultant shall conduct inspections throughout the progress of the abatement project. Inspections shall be conducted to document the abatement work progress, as well as the procedures and practices employed by the Contractor.
- B. The Consultant may perform the following inspections during the abatement activities:
 1. Pre-commencement Inspection. Pre-commencement inspections shall be performed at the time requested by the Contractor. The Consultant shall be informed 12 hours prior to the time the inspection is needed. If deficiencies are noted during the pre-commencement inspection, the Contractor shall perform the necessary adjustments to obtain compliance.
 2. Work Area Inspections. Work area inspections shall be conducted on a daily basis at the discretion of the Consultant. During the work inspections, the Consultant shall 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 Consultant shall perform the following inspections during the abatement activities:
 1. Pre-sealant Inspection. Upon the request of the Contractor, the Consultant shall conduct a pre-sealant inspection. The Consultant shall be informed 12 hours prior to the time that the inspection is needed. The pre-sealant inspection shall be conducted after completion of the initial cleaning procedures, but prior to encapsulation. The pre-sealant inspection shall verify that all ACM and residual debris have been removed from the work area. If the Consultant identifies residual dust or debris during the pre-sealant inspection, the Contractor shall comply with the request of the Consultant to render the area "dust free".
 2. Final Visual Inspection. Upon request of the abatement Contractor, the Consultant shall conduct a final visual inspection. Following the removal of the inner layer of poly sheeting, but prior to final air clearance, the Consultant shall conduct a final visual inspection inside the work area. If residual dust or debris is identified during the final

inspection, the Contractor shall comply with the request of the Consultant to render the area "dust free".

3.8 RE-OCCUPANCY AIR CLEARANCE AIR TESTING

- A. After the visual inspection is completed and all surfaces in the abatement area have dried, the Consultant shall conduct final re-occupancy air clearance sampling. Aggressive air monitoring will be used. Selection of location and of samples shall be the responsibility of the Consultant. Air monitoring volumes shall be sufficient to provide a detection limit of 0.010 fibers/cc using PCM NIOSH Method 7400, or a detection limit of 70 s/mm² utilizing TEM analysis as required.
- B. Areas that do not comply with the Standard for Cleaning for Initial Clearance shall 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. This shall include all Consultant-based costs.
- C. The Contractor shall 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.

3.9 ASBESTOS DISPOSAL

- A. Asbestos-containing and/or asbestos-contaminated material disposal must be in compliance with requirements of, and authorized by the EPA, CTDEEP, and the State of Connecticut.
- B. Disposal approvals shall be obtained before commencing asbestos removal.
- C. A copy of approved disposal authorization shall be provided to the Owner and the Consultant, and any required federal, state, or local agencies.
- D. Copies of all fully executed Waste Shipment Records (WSR) will be retained by the Consultant as part of the project file. The Contractor shall document the specific amount of waste on each WSR, portion/location of the Site building it was generated from, and the type of waste. Upon receipt of the ACM waste, the landfill operator will sign the WSR, and the quantity of asbestos debris leaving the Site, and arriving at the landfill is documented for the Owner.
- E. All asbestos debris shall 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.
- F. Any vehicles used to store or transport ACM will either be removed from the Site at night, or securely locked and posted to prevent disturbance.
- G. Any incident and/or accident that may result in spilling or exposure of asbestos waste outside the containment, on and off the property, and all related issues shall be the sole responsibility of the Contractor.

FUSS & O'NEILL, INC.
20170932.C11

CITY OF MERIDEN HARBOR BROOK PROJECT
104 BUTLER STREET

END OF SECTION 02 82 13

SECTION 02 82 14 – ASBESTOS ROOFING ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Asbestos Building Materials Inspection Report dated December 1, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Abatement Section 02 82 13
- E. Lead-Based Paint Awareness Section 02 83 19
- F. Handling of Lighting Ballasts and Lamps containing PCBs and Mercury Section 02 84 16

1.2 CONSULTANT

- A. The Owner shall retain a Consultant for the purposes of project management and monitoring during Asbestos Roofing Abatement. The Consultant will represent the Owner in all phases of the abatement project at the discretion of the Owner. The Asbestos Abatement Roofing Contractor and/or Demolition Contractor (collectively, the "Contractor") will regard the Consultant's direction as authoritative and binding as provided herein, in matters particularly, but not limited to the following:
 - 1. Work area approval
 - 2. Monitoring results review
 - 3. Various segments of work completion
 - 4. Abatement final completion, data submission review
 - 5. Daily field punch list items
- B. The State of Connecticut licensed Asbestos Consultant – Project Designer for this project is Carlos Texidor (License # 000275).

1.3 SCOPE OF WORK

- A. Work outlined in this Section includes all work necessary for the removal, packaging, transportation, and disposal of asbestos-containing materials (ACM) located on the roof that will be impacted during the 104 Butler Street Demolition (the "Work") at 104 Butler Street, Meriden, Connecticut (the "Site").
- B. This shall include all necessary demolition to access the ACM for abatement.

1.4 USE OF THE CONTRACT DOCUMENTS

- A. It shall be incumbent upon the Contractor to visit the Site and determine existing conditions, and what will be required to accomplish the Work intended by the Contract Documents. No increase in the Contract Sum will be permitted as a result of the Contractor's failure to visit the building located at the Site and understand the existing conditions.
- B. All work shall comply with the Contract Documents and with applicable codes, laws, regulations, and ordinances, wherever applicable. The most stringent of all the foregoing shall govern.
- C. It is not intended that these Specifications show every detail of the Work, but the Contractor shall be required to furnish within the Contract Sum all materials and labor necessary for the completion of the Work in accordance with the intent of these Specifications.
- D. In case of ambiguity among the Contract Documents, the more stringent requirement as determined by the Consultant shall prevail.
- E. The Work of this Contract includes making modifications as necessary, subject to approval by Owner in consultation with the Consultant, to correct any conflicts between contract documents.
- F. All items that are not specifically mentioned in these Specifications but are implied by trade practices to complete the Work, shall be included.

1.5 SITE EXAMINATION

- A. It is understood that the Contractor has examined the Site and made their own estimates of the Site facilities and difficulties attending the execution of the Work and has based their bid price thereon.
- B. Except for unforeseeable concealed conditions as determined by the Consultant, the Contractor shall make no claim for additional costs due to the existing Site conditions.

1.6 CONTRACTOR QUALIFICATIONS

- A. All bidders shall submit a record of prior experience in asbestos abatement projects, listing no less than three completed projects in the past year, with all projects of similar size and scope. The Contractor shall list the experience and training of the project supervisor and all on-site personnel. The information to be included is as follows:
 - 1. Project Name and Address
 - 2. Owner's Name and Address
 - 3. Architect/Consultant
 - 4. Contract Amount
 - 5. Date of Completion
 - 6. Extras and Changes

- B. If the roofing materials to be removed become a regulated asbestos-containing material (RACM) during abatement, the selected Contractor must appear on the approved list of Asbestos Abatement Contractors on file at the State of Connecticut Department of Public Health (CTDPH) and hold a valid Asbestos Abatement Contractor license within the State of Connecticut.
- C. Submit a written statement regarding whether the Contractor has ever received a federal, state, or local non-compliance citation with the asbestos, lead, and/or polychlorinated biphenyl (PCB) regulations pertaining to worker protection, removal, transport, or waste disposal.

1.7 CONSTRUCTION PROGRESS SCHEDULE

- A. To assure adequate planning and execution of the Work and to assist the Consultant in reviewing the justification for the Contractor's applications for payment, the Contractor shall prepare and maintain a detailed Progress Schedule.
- B. The schedule of work of this Contract shall include the notification requirements to regulatory agencies for the work if exterior materials will become friable during proposed removal operations. It shall be incumbent upon the Contractor performing the asbestos abatement to determine if proposed removal methods shall render the asbestos-containing exterior roofing materials friable or not.
- C. The Contractor shall supervise and direct all work of theirs and other trades using their best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under the Contract.
- D. Due to the nature of this construction work, the scheduling or phasing of work under this Contract may be adjusted by the Owner. As long as the scope of work is not altered, adjustments to the project phasing shall have no effect on the contract price.
- E. The Contractor and any sub-contractors shall attend a pre-construction meeting. The assigned Supervisor must attend this meeting.

1.8 TESTING LABORATORY SERVICES

- A. The Contractor shall submit to the Consultant the name, address, and qualifications of proposed laboratories intended to be utilized for sample analysis as required by this Section.

1.9 ADDITIONAL GENERAL REQUIREMENTS

- A. The Contractor shall employ a competent Supervisor with at least three years of experience on projects of similar scope and magnitude who shall be responsible for all work involving asbestos abatement, as described in the specifications, and defined in applicable regulations and have full-time daily supervision of the same. The Supervisor shall be the competent person as defined by OSHA regulations.

- B. Should the ACM become friable during removal, the Contractor shall employ a competent Asbestos Abatement Supervisor with at least three years of experience on projects of similar scope and magnitude, who shall be responsible for all work involving asbestos abatement as described in the specifications, and defined in applicable regulations, and have full-time daily supervision of the same.
- C. If requested or required by local, state, federal, and any other authorities having jurisdiction over such work, the Contractor shall allow the Work of this Contract to be inspected. The Contractor shall immediately notify the Owner and the Consultant and shall maintain written evidence of such inspection for review by the Owner and the Consultant.
- D. The Contractor shall incur the cost of all fines resulting from regulatory non-compliance, as issued by federal, state, and local agencies. The Contractor shall incur the cost of all work requirements mandated by federal, state, and local agencies as a result of regulatory non-compliance or negligence.
- E. The Contractor shall immediately notify the Owner and Consultant of the delivery of all permits, licenses, certificates of inspection, of approval, or occupancy, etc., and any other such instruments required under codes by authorities having jurisdiction, regardless of who issued, and shall cause them to be displayed to the Owner and Consultant for verification and recording.

1.10 PROJECT DESCRIPTION

- A. The base bid includes the removal, packaging, transportation, and disposal of all ACM as identified herein, conducted by workers meeting the requirements of OSHA Title 29 CFR, Part 1926.1101 for Class 2 work.
- B. The quantities listed herein are estimates only and should be verified on-site by the Contractor.
- C. This base bid includes the following materials and locations:

BASE BID - ASBESTOS

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY	NOTES
Main Building Roof	Roof Flashing	250 LF	1, 2

Notes:

- 1. Quantities shall be verified by Contractor during the time of the walk-through. Discrepancies of amounts and/or locations of asbestos-containing materials shall be addressed prior to bidding the work to the Owner and Consultant.
- 2. Contractor will need ladder or lift to remove roofing material from roof there is no roof access through building.
- D. Some of the Work will be performed in multiple mobilizations, at different periods of time, in conjunction with other trades (i.e., other trades work, demolition work, etc.).

- E. Safety Data Sheets (SDS) for chemicals to be used during the project must be submitted to the Consultant prior to site delivery.
- F. The Contractor shall be responsible for providing temporary water, power, and heat as needed at the Site. Temporary lighting within the work areas must be connected to Ground Fault Circuit Interrupter (GFCI) power panels, installed by a State of Connecticut-licensed electrician, and located outside of the work areas.
- G. The Contractor shall be responsible for providing preparation of negative pressure enclosures (NPE), cleaning, etc. at no additional cost to the Owner, if work practices result in ACM breaching the roof deck and entering the building during abatement.

1.11 DEFINITIONS

- A. The following definitions relative to asbestos roof abatement shall apply:
 - 1. Abatement - Procedures to control fiber release from ACM; includes removal, encapsulation, and enclosure.
 - 2. Air Monitoring - The process of measuring the total airborne fiber concentration of an area or exposure of a person.
 - 3. Amended Water - Water to which a surfactant has been added.
 - 4. 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.
 - 5. Asbestos Felt - A product made by saturating felted asbestos with asphalt or other suitable bindery, such as a synthetic elastomer.
 - 6. Asbestos Fibers - Those particles with a length greater than five (5) microns (μ) and a length to diameter ratio of 3:1 or greater.
 - 7. Asbestos Work Area - A regulated area as defined by OSHA Title 29 CFR, Part 1926.1101 where asbestos abatement operations are performed that is isolated by physical barriers to prevent the spread of asbestos dust, fibers, or debris. The regulated area shall comply with requirements of regulated area for demarcation, access, respirators, prohibited activities, competent persons and exposure assessments and monitoring.
 - 8. Asphalt Shingles, Composition Shingles, or Strip Slates (Pitched Roof Shingle) - A roofing material manufactured by saturating a dry felt with asphalt then coating the saturated felt with a harder asphalt mixed with a fine mineral, glass fiber, asbestos, or organic stabilizer. All or part of the weather side may be covered with mineral granules, or with powdered talc or mica.
 - 9. Base Flashing (Roof) - The flashing provided by upturned edges of a water-tight membrane on a roof. May contain metal and associated waterproofing material or combination of roofing felts and waterproofing at the joint between a roofing surface and a vertical surface, such as a wall or parapet. Also, base flashing may be present at perimeter of completely flat roof.
 - 10. Built-Up Roofing (Composition Roofing, Felt and Gravel Roofing, Gravel Roofing) - A continuous roof covering comprised of laminations or plies of saturated or

- coated roofing felts, alternated with layers of asphalt or coal-tar pitch and surfaced with gravel, paint, or finish coat.
11. Category I Non-Friable Material - Asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
 12. Category II Non-Friable Material - Any non-friable ACM not designated as Category I.
 13. 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)
 14. Clean Room - An uncontaminated area or room, which is a part of the worker decontamination system with provisions for storage of workers' street clothes and protective equipment.
 15. Clearance Sampling - Final air sampling performed aggressively after the completion of the abatement project within 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) air samples collected inside the NPE will indicate acceptable area re-occupancy by Phase Contrast Microscopy (PCM), or five air samples collected inside the NPE by the Consultant having an average asbestos concentration of less than 70 structures per square millimeter ($< 70 \text{ s/mm}^2$) of air will indicate area re-occupancy using Transmission Electron Microscopy (TEM).
 16. 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. Person who has authority to take prompt corrective measures to eliminate such hazards during asbestos removal. Competent person shall be properly trained in accordance with EPA Model Accreditation Plan (MAP).
 17. Consultant - Fuss & O'Neill, Inc.
 18. 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.
 19. Damp proofing - The application of a water-impervious material to surface such as wall to prevent penetration of moisture, typically at foundation or below grade surface.
 20. Decontamination System - A series of connected areas, with curtained doorways between any two adjacent areas, for worker and equipment decontamination. A decontamination system always contains at least one airlock and is adjacent and connected to the regulated area, where possible.
 21. Encapsulant - A liquid material which can be applied to ACM that 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).
 22. Equipment Room - Any contaminated area or a room that is part of the worker decontamination system with provisions for storage of contaminated clothing and equipment.

23. Fixed Object - Unit of equipment or furniture in the work area that cannot be removed from the work area.
24. Friable Asbestos Materials - Any material that contains more than 1% asbestos by weight, that can be crumbled, pulverized, or reduced to powder by hand pressure.
25. Glazing - 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.
26. GFCI - Ground Fault Circuit Interrupter
27. HEPA - High Efficiency Particulate Air
28. HEPA Filter - Filter in compliance with ANSI Z9.2 1979.
29. HEPA Vacuum Equipment - Vacuum equipment equipped with a HEPA filter system for filtering the air effluent.
30. Movable Object - Unit of equipment of furniture in the work area that can be removed from the work area.
31. 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.
32. NESHAP - National Emissions Standard for Hazardous Air Pollutants regulations enforced by the EPA.
33. Owner - The City of Meriden: An employee or executive who has the principal responsibility for a process, program, or project.
34. Penetration Roof Flashing - Flashing are used to waterproof pipes, supports, cables, and all roof protrusions.
35. Permissible Exposure Limit (PEL) - The maximum total airborne fiber concentration to which an employee is allowed to be exposed. The limit established by OSHA Title 29 CFR, Part 1926.1101 is 0.1 fibers/cc as an 8-hour TWA and 1.0 fibers/cc averaged over a sampling period of 30 minutes as an Excursion Limit. The Contractor shall be responsible for maintaining work areas in a manner that this standard is not exceeded.
36. 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.
37. Regulated Asbestos-Containing Material (RACM) - Is a friable ACM, or a Category I non-friable ACM that has become friable or will be or has been subjected to sanding, grinding, cutting, or abrading, or Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by force expected to act on the material during demolition or renovation operations.
38. Regulated Area - An area established by the employer to demarcate where Class I, II, and III asbestos abatement is conducted, and any adjoining area where debris and waste from such asbestos work accumulate, and a work area within which airborne concentrations of asbestos exceed or there is a reasonable possibility that they may exceed the PEL.

39. Shower Room - A room between the clean room and the equipment room in the work decontamination system 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.
40. 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.

1.12 SUBMITTALS

- A. The Contractor shall submit the following to the Consultant in one complete package prior to the pre-construction meeting, and no later than 10 business days prior to the anticipated start of the Work:
 1. Submit a schedule to the Owner and the Consultant that defines a timetable for executing and completing the project, including work area preparations, removal, cleanup, decontamination, and final clearance air monitoring (if applicable).
 2. Submit the current valid CTDPH Asbestos Abatement Contractor license (if materials become RACM during removal) and certificate of insurance.
 3. Submit the name and address of the hauling contractor and location of the landfill to be used. Also submit current valid operating permits and certificates of insurance for the transporter and landfill.
 4. Submit video documentation showing the conditions of the building prior to the start of work. The contractor will be held responsible for all damage to the building and its contents not shown on the video documentation.
 5. Submit the plans and construction details for the construction of the decontamination systems and the isolation of the work areas as may be necessary for compliance with this specification and applicable regulations.
 6. Submit the CTDPH license (if applicable), training, medical, and respirator fit test records of each employee who may be on the project site.
 7. Submit the qualifications of the air sampling professional that the Contractor proposed to use for this project to perform OSHA-required employee exposure monitoring.
 8. Submit detailed product information on all materials and equipment proposed for asbestos abatement work on this project.
 9. Submit pertinent information regarding the qualifications of the Project Supervisor (competent person) for this project as well as a list of past projects completed.
 10. Submit a chain-of-command for the project.
 11. Submit a site-specific Emergency Action Plan for the project.
 12. 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).
 13. No work on the Site will be allowed to begin until the Owner and the Consultant as listed herein approve the Pre-Construction Submittals. Any delay caused by the Contractor's refusal or inability to submit this documentation in a timely manner does not constitute a cause for change order or a time extension;

- B. The Contractor shall submit the following to the Consultant during the work:
1. Copies of personal air sampling results (Consultant will not review or provide any direction or advice regarding results). The Contractor shall be responsible for proper sample analytical review and personal protective equipment (PPE) selection and use. Records are retained solely for project record.
 2. Copies of training, CTDPH licenses (if applicable), fit test records, and medical records for new employees to start work (24-hours in advance), and prior to the new employee arriving at the Site.
 3. Carbon copies from waste shipment record, waste manifest records, bill of lading, or other waste tracking record for all specified materials.
 4. Copies of daily log sheets, daily sign-in sheets, and containment sign-in sheets.
- C. The Contractor shall submit the following to the Consultant at the completion of work. The Owner reserves right to retain payment(s) until all items are received in completion:
1. Original final completed copies of the waste shipment records, signed by all transporters and the designated disposal site owner/operator.
 2. Original final completed copies of bill of lading, weight tickets, recycling tickets, and manifests for all specified materials.
 3. Contractor's logs (daily activity logs, daily sign in sheets, containment sign-in sheets), and all worker training, CTDPH licenses (if applicable), medical records and respirator fit test records.
 4. Copies of all OSHA personal monitoring results.

1.13 REGULATIONS AND STANDARDS

- A. The Contractor shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state, and local regulations and guidelines pertaining to asbestos abatement. Specifically, the Contractor shall comply with the requirements of the following:
1. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulations (Title 40 CFR, Part 61, Subpart M);
 2. OSHA Asbestos Regulations (Title 29 CFR, Parts 1910.1001 and 1926.1101);
 3. Connecticut Department of Energy and Environmental Protection (DEEP) Regulations (Section 22a 209 8(i) and Section 22a 220 of the Connecticut General Statutes);
 4. CTDPH Standards for Asbestos Abatement (Sections 19a-332a- 1 to 19a-332a-16);
 5. CTDPH Licensing and Training Requirements for Persons Engaged in Asbestos Abatement and Asbestos Consultant Services (Sections 20-440-1 to 20-440-9 and Section 20-441);
 6. United States Department of Transportation (DOT) Hazardous Materials Regulations (Title 49 CFR, Parts 171 – 180);
 7. 2003 International Building Code as adopted by the 2005 State of Connecticut Building Code including the 2009, 2011, 2013, 2016, and 2018 amendments;
 8. Life Safety Code National Fire Protection Association (NFPA);

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 (UL).

1.14 EXEMPTIONS

- A. Any deviations from these specifications require the prior written approval and authorization from the Owner and the Consultant.
- B. Any modifications from the standard work practices identified in the CTDPH Standards for Asbestos Abatement, Sections 19a-332a-1 to 19a-332a-16 must be requested in writing and approved in writing by the CTDPH.

1.15 FINAL RE-OCCUPANCY AIR CLEARANCE

- A. Not applicable for exterior non-friable roof abatement project.

1.16 NOTIFICATIONS, POSTINGS, SUBMITTALS, AND PERMITS

- A. The Contractor shall make the following written notifications and provide the submittals to the following agency prior to the commencement of abatement if the work is going to render the ACM friable. The CTDPH notification is required 10 calendar days prior to start of the abatement project and the EPA notification is required 10 business days prior to the start of the abatement project:
 1. Connecticut Department of Public Health
410 Capitol Avenue
MS #12 AIR
P.O. Box 340308
Hartford, CT 06134-0308

2. United States Environmental Protection Agency (USEPA)
Jordan Alves (alves.jordan@epa.gov)
Region 1- New England (OEP05-2)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

B. The minimum information included in the notification to these agencies includes:

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
8. If landfill opens in Connecticut to accept ACM waste, Consultant will notify CTDEEP prior to utilizing said landfill

1.17 WORK SITE SAFETY PLAN

A. The Contractor shall establish a set of emergency procedures and shall post them in a conspicuous place at the 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.
4. Local telephone numbers for emergency services including ambulance, fire, and police.
5. A method to notify occupants of the building in the event of a fire or other emergency requiring evacuation of the building.

B. The Contractor shall be responsible for properly training all workers in these procedures.

1.18 INDEPENDENT AIR SAMPLING AND ASBESTOS ABATEMENT MONITORING

A. This Section describes independent air sampling work being performed on behalf of the Owner. This work is not in the Contract Sum. This Section describes air monitoring conducted by the Consultant to verify that the outside environment remains uncontaminated. (Personal air monitoring required by OSHA is work shall be performed by the Contractor and is within the Contract Sum.)

B. The purpose of the Consultant's air monitoring is to document engineering controls utilizing during asbestos abatement are functioning properly. Air monitoring will focus on possible:

1. Contamination of the building outside of the work area by airborne asbestos fibers
2. Contamination of air outside the building envelope by airborne asbestos fibers.

- C. Should either of the above be determined to have occurred based on Consultant's air monitoring, the Contractor shall immediately cease all asbestos abatement activities until the fault is corrected. Do not resume work until authorized by the Owner's Consultant. To determine if the elevated total airborne fiber concentrations encountered during abatement operations have been reduced to an acceptable level below 0.010 f/cc, the Consultant will collect and analyze air samples in accordance with re-occupancy clearance air sampling requirements.
- D. The Consultant may monitor total airborne fiber concentrations in the Work Area. The purpose of this air monitoring will be to detect airborne fiber concentrations, which may challenge the ability of the work area isolation procedures to protect the balance of the building or the building exterior from possible contamination by airborne fibers.
- E. To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Consultant will collect and analyze air samples in accordance with clearance air sampling requirements.
- F. The Consultant may perform on-site monitoring throughout the project, as follows:
 - 1. All work procedures shall be continuously monitored by the Consultant to assure that areas outside the designated work locations in the building will not be contaminated.
 - 2. Prior to work on any given day, the Contractor's designated "Competent Person" shall discuss the day's work schedule with the Consultant to evaluate job tasks with respect to safety procedures and requirements specified to prevent building contamination or the employees. This includes a work area visual inspection and the building decontamination or the employees. This includes a work area visual inspection and the decontamination systems.

1.19 CONTRACTOR'S AIR SAMPLING RESPONSIBILITY

- A. The Contractor shall independently retain an air sampling professional to monitor total airborne fiber concentrations in the workers' breathing zone and to establish conditions and work procedures for maintaining compliance with OSHA Regulations Title 29 CFR, Parts 1910.1001 and 1926.1101.
- B. The Contractor's air sampling professional shall document all air sampling results and provide a report to the Consultant within 48-hours after sample collection.
- C. All air sampling shall be conducted in accordance with methods described in OSHA Standards Title 29 CFR, Parts 1910.1001 and 1926.1101.

1.20 PROPER WORKER PROTECTION

- A. This Section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards, except for respiratory protection.

- B. All workers are to be accredited as Abatement Workers as required by the EPA's AHERA regulation Title 40 CFR, Part 763 Appendix C to Subpart E, February 3, 1994.
- C. The Contractor must be licensed and accredited, as required by CTDPH, if removal work practices render the materials RACM.
- D. In accordance with OSHA Title 29 CFR, Part 1926, all workers shall receive a training course covering the dangers inherent in handling asbestos, the dangers of breathing asbestos dust, proper work procedures, and proper worker protective measures. This course must include, but is not limited to the following:
 - 1. Methods of recognizing asbestos
 - 2. Health effects associated with asbestos
 - 3. Relationship between smoking and asbestos in producing lung cancer
 - 4. Nature of operations that could result in exposure to asbestos
 - 5. Importance of and instruction in the use of necessary protective controls, practices, and procedures to minimize exposure including:
 - a. Engineering controls
 - b. Work Practices
 - c. Respirators
 - d. Housekeeping procedures
 - e. Hygiene facilities
 - f. Protective clothing
 - g. Decontamination procedures
 - h. Emergency procedures
 - i. Waste disposal procedures
 - 6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by OSHA Title 29 CFR, Part 1910.134
 - 7. Appropriate work practices
 - 8. Requirements of medical surveillance program
 - 9. Review of OSHA Title 29 CFR, Part 1926
 - 10. Pressure Differential Systems
 - 11. Work practices including hands on or on job training
 - 12. Personal decontamination procedures
 - 13. Air monitoring (personal and area)
- E. The Contractor shall provide medical examinations for all workers who may encounter a total airborne fiber concentration of 0.1 fibers/cc or greater for an 8-hour TWA. In the absence of specific airborne fiber data, provide medical examinations for all workers who will enter the work area for any reason. Examination shall, at a minimum, meet OSHA requirements as set forth in Title 29 CFR, Part 1926. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.
- F. Submit the following to the Consultant for review. The Contractor shall not start work until these submittals are returned with Consultant action stamp indicating that they are accepted.

1. Submit copies of certificates from an EPA-approved AHERA Abatement Worker course for each worker as evidence that each asbestos Abatement Worker is accredited as required by EPA AHERA Regulation Title 40 CFR, Part 763 Appendix C to Subpart E, February 3, 1994.
 2. Submit evidence that the Contractor is certified to perform asbestos abatement work by the State of CTDPH.
 3. Submit documents verifying that each worker has had a medical examination within the last 12 months, as part of compliance with OSHA medical surveillance requirements. Submit, at a minimum, for each worker the following:
 - a. Name and Social Security Number
 - b. Physician's Written Opinion including at a minimum the following:
 - 1) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - 2) Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
 - 3) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
 4. Copy of information that was provided to physician in compliance with OSHA Title 29 CFR, Part 1926.
 5. Statement that worker is able to wear and use the type of respiratory protection proposed for the project and is able to work safely in an environment capable of producing heat stress in the worker.
 6. Submit copies of certificates for the site supervisor and the workers issued by CTDPH.
- G. Submit certification signed by an officer of the abatement-contracting firm and notarized that personal exposure measurements, medical surveillance, and worker training records are in conformance with OSHA Title 29 CFR, Part 1926.
- H. The Contractor shall maintain control of and shall be responsible for access to all work areas to ensure the following requirements:
1. Non-essential personnel are prohibited from entering the area.
 2. All authorized personnel entering the work area shall read the "Worker Protection Procedures" which are posted at the entry points to the system and shall be equipped with properly fitted respirators and protective clothing.
 3. All personnel who are exiting from the decontamination system shall be properly and thoroughly decontaminated.
 4. Asbestos waste that is removed from the work area must be properly containerized and labeled in accordance with these specifications. The exterior surface of the containers shall be decontaminated. Asbestos waste must be immediately transported off site or immediately placed in locked, posted temporary storage located on site, and removed within 24-hours of project completion.
 5. Any material, equipment, or supplies that are removed from the decontamination system shall be thoroughly cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

PART 2 - PRODUCTS

2.1 MATERIALS

- 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 Site. Material that becomes contaminated with asbestos shall be decontaminated or disposed as asbestos waste.
- C. Polyethylene (poly) sheeting in a roll size to minimize the frequency of joints shall be delivered to the Site with a factory label indicating 4 or 6-mil thickness.
- D. Poly disposable bags shall be 6-mil thickness with pertinent pre-printed label. Tie wraps for bags shall be plastic, five inches long (minimum), pointed and looped to secure filled plastic bags.
- E. Tape or spray-adhesive will be capable of sealing joints in adjacent poly sheets, and for attachment of poly to dissimilar finished or unfinished surfaces and capable of adhering under both dry and wet conditions, including amended water.
- F. Surfactant (wetting agent) shall consist of 50 percent polyoxyethylene ether and 50 percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of one ounce surfactant to five gallons of water or as directed by manufacturer.
- G. Removal encapsulant shall be non-flammable factory prepared penetrating chemical encapsulant deemed acceptable to Consultant. Usage shall be in accordance with manufacturer's printed technical data.
- H. The Contractor shall have available spray equipment capable of mixing wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.
- I. Impermeable containers are to be used to receive and retain asbestos-containing or contaminated materials until disposal at an acceptable disposal site. The containers shall be labeled in accordance with OSHA Title 29 CFR, Part 1926.1101. Containers must be both air and watertight.
- J. OSHA-required asbestos labels, warning signs, and/or warning tape shall be used.
- K. Encapsulant shall be bridging or penetrating type that has been deemed acceptable to the Consultant. Usage shall be in accordance with manufacturer's printed technical data.

2.2 TOOLS AND EQUIPMENT

- A. The Contractor shall provide all tools and equipment necessary for asbestos removal, encapsulation, and enclosure.

- B. The Contractor's air monitoring professional shall have air-monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements.
- C. The Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the Work including protective clothing, respirators, filter cartridges, poly sheeting of proper size and thickness, tape, and air filters.
- D. The Contractor shall provide (as needed) temporary electrical power panels, electrical power cables, and electrical power sources (such as generators). Any electrical connection work affecting the building electrical power system shall be performed by a State of Connecticut-licensed electrician.
- E. The Contractor shall have available shower stalls and plumbing to support same to include sufficient hose length and drain system, or an acceptable alternate.
- F. Vacuum units, of suitable size and capacities for the project, shall 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.

PART 3 - EXECUTION

3.1 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 shall present a detailed project schedule and project submittal package at the Pre-Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed, and the Owner and Consultant will inform the Contractor of any scheduling adjustments for this project.
- C. Following the Pre-Construction Meeting, the Contractor shall submit a revised schedule (if needed) no later than one week after the meeting.

3.2 WORK AREA PREPARATION

- A. Where necessary deactivate 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 State of Connecticut-licensed electrician.
- B. Deactivate and/or isolate heating, ventilation, and air conditioning (HVAC) air systems or zones to prevent contamination and fiber dispersal within the structure. During the work, rooftop vents around the work area shall be completely sealed with duct tape and two layers of 6-mil thick poly.

- C. Completely seal all openings, including, but not limited to, roof level HVAC air intake sources, windows adjacent to removal (within ten feet) skylights, ducts, grills, diffusers, and any other penetration of the work areas, with poly a minimum of 6-mil thick, sealed with duct tape.

3.3 DECONTAMINATION SYSTEM

- A. The Contractor shall establish on-site, a remote decontamination enclosure consisting of equipment room, shower room, and clean room in series.
- B. Access between rooms in the decontamination system shall be through double flap-curtained openings. The clean room, shower, and equipment rooms within the decontamination enclosure shall be completely sealed.
- C. Construct the decontamination system with plastic, wood, or metal framing and cover both sides with a double layer of 6-mil poly, sealed with spray glue or tape at the joints.
- D. The Contractor and the Consultant shall visually inspect barriers routinely to assure effective seal, and the Contractor shall repair defects immediately.

3.4 ASBESTOS REMOVAL PROCEDURE - GENERAL

- A. Following a federal court of appeals decision, OSHA has issued a final rule on June 29, 1998, removing regulation of asbestos-containing asphalt roof cements, mastics, and coatings from the OSHA standards for occupational exposure to asbestos in construction and shipyard work. However, friable materials (felts, papers, etc.) are still regulated by OSHA, federal (no visible emissions), and state entities.
- B. Exterior non-friable materials which are not RACM as defined by the EPA and CTDPH are not required to be removed by a CTDPH-licensed Asbestos Abatement Contractor in the State of Connecticut. This applies as long as the proposed methods of removal will not render the Category I non-friable roofing materials RACM during proposed roof removal operations.
- C. Supervisors and workers are not required to be certified in the State of Connecticut unless the Category I non-friable roofing materials become RACM. Workers must be properly trained in compliance with OSHA regulations.
- D. The Contractor shall have a designated "competent person" on the job at all times to ensure proper work practices throughout the project.
- E. The Contractor shall regulate the work area as required for compliance with OSHA regulation Title 29 CFR, Part 1926.1101 to prohibit non-trained workers from entering areas where ACM are to be removed.
- F. The Contractor shall establish worker decontamination unit remote from the work area.

- G. The Contractor shall spray ACM with amended water using airless spray equipment or apply approved removal wetting agent to ensure no visible emissions during removal of Category I non-friable roofing materials.
- H. The adequately wet asbestos must be removed in manageable sections. Material drop shall not exceed eight feet. For heights up to 15 feet above ground surface, provide inclined chutes, or scaffolding to intercept drop. For heights exceeding 15 feet, the Contractor shall provide an enclosed dust-proof chute.
- I. After completion of stripping work, all surfaces from which ACM has been removed shall be wet cleaned or cleaned by an equivalent method to remove all visible suspect ACM (wire brushes are prohibited). During this work, the surfaces being cleaned shall be kept adequately wet, without causing a safety hazard.
- J. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris. Waste shall be containerized in labeled and signed 6-mil poly disposable bags. Tie wraps for bags shall be plastic, 5-inches long (minimum), pointed and looped to secure filled plastic bags.
- K. At any time during asbestos abatement should the Consultant suspect contamination of areas outside the work area(s), they shall issue a stop work order until the Contractor takes required steps to decontaminate these areas, and to eliminate the causes of such contamination. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections indicate acceptable decontamination.
- L. The Consultant shall conduct a final visual inspection of the work area. If residual suspect ACM debris is identified during the course of the final inspection, the Contractor shall comply with the Consultant's request to render the area clean of all residual ACM.

3.5 CONSULTANT'S RESPONSIBILITIES

- A. Air sampling shall be conducted by the Consultant to ascertain the integrity of engineering controls that protect the building from possible asbestos contamination. Independently, the Contractor shall monitor air quality within the work area to ascertain the protection of employees, and to comply with OSHA regulations.
- B. The Consultant's air sampling professional shall collect and analyze air samples during the following time period:
 - 1. Abatement Period. If required, the Consultant's project monitor shall collect air samples on a daily basis during the work period. A sufficient number of area air samples shall be collected upwind and downwind of the work area, waste debris chute (if applicable) and outside of the building to evaluate the degree of cleanliness or contamination of the building during removal. Additional air samples may be collected inside the work zone and decontamination system, at the discretion of the project monitor.

- C. The Consultant's project monitor shall provide continual evaluation of the air quality outside the building during removal, using their best professional judgment in respect to the CTDPH guideline of 0.010 f/cc, and the background air quality established during the pre-abatement period.
- D. If the project monitor determines that the air quality has become contaminated from the project, they shall immediately inform the Contractor to cease all removal operations and implement a work stoppage clean up procedure. The Contractor shall conduct a thorough cleanup of the building areas designated by the Consultant. No further removal work may occur until the project monitor has assessed that the building air has been decontaminated.
- E. Abatement air samples shall be collected as required to obtain a volume of 1,200 liters of air. Air samples shall be analyzed by PCM NIOSH Method 7400 sampling protocol.

3.6 CONSULTANT'S INSPECTION RESPONSIBILITIES

- A. Consultant shall conduct inspections throughout the progress of the abatement project. Inspections shall be conducted to document the progress of the abatement work, as well as the procedures and practices employed by the Contractor.
- B. The Consultant shall perform the following inspections during abatement activities:
 - 1. Pre-commencement Inspection. Pre-commencement inspections shall be performed at the time requested by the Contractor. The Consultant shall be informed a minimum of 12-hours prior to the time the inspection is required. If deficiencies are identified during the pre-commencement inspection, the Contractor shall perform the necessary adjustments to obtain compliance.
 - 2. Work Area Inspection. Work area inspections shall be conducted on a daily basis at the discretion of the Consultant. During the work inspections, the Consultant shall observe the Contractor's removal methods and procedures, 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. Upon request of the Contractor, the Consultant shall conduct a final work area visual inspection. If residual dust or debris is identified during the final inspection, the Contractor shall comply with the request of the Consultant to render the area "dust free."

3.7 DISPOSAL OF ASBESTOS

- A. Disposal of ACM or asbestos-contaminated material must be in compliance with requirements of and authorized by the EPA, CTDEEP, and CTDPH.
- B. Disposal approvals shall be obtained before commencing asbestos abatement.
- C. A copy of approved disposal authorization shall be provided to the Owner and Consultant, and any required federal, state, or local agencies.

- D. Copies of all fully executed Waste Shipment Records (WSR) will be retained by the Consultant as part of the project file. The Contractor shall document the specific amount of waste on each WSR, portion/location of the Site building it was generated from, and the type of waste. Upon receipt of the ACM waste, the landfill operator will sign the WSR, and the quantity of asbestos debris leaving the Site, and arriving at the landfill is documented for the Owner.
- E. All asbestos debris shall 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.
- F. Any vehicles used to store or transport ACM will either be removed from the property at night or shall be securely locked and posted to prevent disturbance.
- G. Any incident and/or accident that may result in spilling, exposure, or environmental release of asbestos waste outside the work area, on and off the property, and all related issues shall be the sole responsibility of the Contractor.

END OF SECTION 02 82 14

SECTION 02 83 19 – LEAD PAINT AWARENESS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Asbestos Building Materials Inspection Report dated December 1, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Abatement Section 02 82 13.
- E. Asbestos Roofing Abatement Section 02 82 14
- F. Handling of Lighting Ballasts and Lamps containing PCBs and Mercury Section 02 84 16.

1.2 SUMMARY OF WORK

- A. Work of this Section includes requirements for worker protection and waste disposal related to demolition involving lead-based paint (LBP)-coated building components and surfaces (the "Work) at 104 Butler Street in Meriden, Connecticut (the "Site").
- B. The procedures referenced herein shall be utilized during required repair/replacement work specified elsewhere that may impact building components coated with LBP. The following exterior painted components were determined to be coated with LBP by lead determination utilizing X-Ray Fluorescence (XRF):
 - 1. All painted surfaces
- C. paint may result in dust and debris exposing workers to levels of lead above the Occupational Safety and Health Administration's (OSHA) Action Level. Worker protection, training, and engineering controls referenced herein shall be strictly followed, until completion of exposure assessment with results indicating exposures below the "Action Level". This Section does not involve lead abatement but identified worker protection requirements for trades involved in the demolition and disposal procedures if lead is involved in the demolition waste stream.
- D. Construction activities disturbing surfaces with LBP and lead-containing 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). All work specified in the technical sections of the Contract

Documents shall also be in conformance with this Technical Specification Section 02 83 19 for Lead Paint Awareness.

1.3 DEFINITIONS

A. The following definitions relative to LBP shall apply:

1. Action Level (AL) - The allowable employee exposure, without regard to use of respiratory protection, to an airborne concentration of lead over an eight-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. CDC - The Center for Disease Control.
5. Change Room - An area provided with separate facilities for clean protective work clothing and equipment and for street clothes, which prevents cross-contamination.
6. Component 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.
7. Consultant - Fuss & O'Neill, Inc.
8. USEPA - United States Environmental Protection Agency.
9. Exposure Assessment - An assessment conducted by an employer to determine if any employee may be exposed to lead at or above the action level.
10. 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.
11. HUD - United States Housing and Urban Development.
12. Lead - Refers to metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.
13. 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.
14. Lead Paint - Refers to paints, glazes, and other surface coverings containing a toxic level of lead.
15. MSHA - Mine Safety and Health Administration.
16. NARI - National Association of The Remodeling Industry.
17. NIOSH - National Institute of Occupational Safety and Health.
18. OSHA - Occupational Safety and Health Administration.
19. Owner - The City of Meriden; An employee or executive who has the principal responsibility for a process, program, or project.
20. Permissible Exposure Limit (PEL) - The maximum allowable limit of exposure to an airborne concentration of lead over an eight (8)-hour 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.

21. 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 OSHA Title 29 CFR, Parts 1910.1025 and 1926.62. 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.
22. Resource Conservation and 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 in paints, excluding selenium and silver.
23. SDS - Safety Data Sheets.
24. TWA - Time Weighted Average.
25. Toxic Level of Lead - A level of lead, when present in dried paint or plaster, contains equal to or more than 0.50% lead by dry weight as measured by atomic absorption spectrophotometry (AAS) or 1.0 milligram per square centimeter (mg/cm²) as measured by on site testing utilizing an x ray fluorescence analyzer. (Term is specific to State of CT regulations and HUD guidelines only.)
26. Toxicity Characteristic Leaching Procedure (TCLP) - The United States Environmental Protection Agency (EPA) 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)
 - a. 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 1910.1200 - Hazard Communication
 - d. Title 29 CFR, Part 1926.55 - Gases, Vapors, Fumes, Dusts, and Mists
 - e. Title 29 CFR, Part 1926.57 - Ventilation
 - f. Title 29 CFR, Part 1926.59 - Hazard Communication in Construction
 - g. Title 29 CFR, Part 1926.62 - Lead in Construction Interim Final Rule
 - h. Title 40 CFR, Parts 124 and 270 - Hazardous Waste Permits
 - i. Title 49 CFR, Part 172 - Hazardous Materials Tables and Communication Regulations
 - j. Title 49 CFR, Part 178 - Shipping Container Specifications
 - k. Title 40 CFR, Part 260 - Hazardous Waste Management Systems: General
 - l. Title 40 CFR, Part 261 - Identification and Listing of Hazardous Waste
 - m. Title 40 CFR, Part 262 - Generators of Hazardous Waste
 - n. Title 40 CFR, Part 263 - Transporters of Hazardous Waste
 - o. Title 40 CFR, Part 264 - Owner and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
 - p. Title 40 CFR, Part 265 - Interim Statutes for Owner and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

- q. Title 40 CFR, Part 268 - Lead Disposal Restrictions
- r. Title 49 CFR, Parts 170 - 180
- 3. 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 OSHA 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 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. Hazardous Waste Management

- 1. The Contractor shall establish a Hazardous Waste Management Plan, which shall comply with applicable regulations and address the following:
 - a. Identification of hazardous wastes
 - b. Estimated quantity of waste to be disposed
 - c. Names and qualifications of each subcontractor who will be transporting, storing, treating, and disposing of wastes
 - d. Disposal facility location and 24-hour point of contact
 - e. Establish EPA state hazardous waste and identification numbers if applicable
 - f. Names and qualifications (experience and training) of personnel who will be working on site with hazardous wastes.
 - g. List of waste handling equipment to be used in performing the work to include cleaning, volume reduction, if applicable, and transport equipment
 - h. Qualifications of laboratory to be utilized for TCLP sampling and analysis
 - i. Spill prevention, containment, and countermeasure plan (SPCC)
 - j. Work plan and schedule for waste containment, removal, treatment, and disposal

D. Medical Examinations

1. Before exposure to lead-contaminated dust, provide workers with a comprehensive medical examination as required by OSHA Title 29 CFR, Parts 1910.1025 and 1926.62.
2. The examination shall not be required if adequate records show that employees have been examined as required by OSHA 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.

E. Training

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

F. 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 six months thereafter, as required by OSHA Title 29 CFR, Part 1926.62.
2. The Contractor shall establish a Respiratory Protection Program in accordance with ANSI Z88.2, OSHA Title 29 CFR, Parts 1910.134 and 1926.62.

1.6 SUBMITTALS

A. The Contractor shall submit the following to the Consultant in one complete package prior to the pre-construction meeting and at least 10 business days before the start of the Work:

1. Submit a schedule to the Owner and the Consultant, which defines a timetable for executing and completing the project, including work area preparations, removal, cleanup, and decontamination.
2. Submit a current valid certificate of insurance.
3. Submit the name and address of the hauling contractor and location of the landfill to be used. Also submit current valid operating permits and certificates of insurance for the transporter and landfill.
4. Submit video documentation showing the existing building conditions prior to the start of work. The Contractor shall be responsible for all costs associated with damage to the building and its contents that are not shown on the video documentation.
5. Submit the plans and construction details for the construction of the decontamination systems and the isolation of the work areas as may be necessary for compliance with this specification and applicable regulations.
6. Submit copies of medical records for each employee to be used on the project, including results of biological monitoring and a notarized statement by the examining physician that such an examination occurred.
7. Submit workers' valid training certificates.

8. Submit record of successful respirator fit testing performed by a qualified individual within the previous six months, for each employee to be used on this project with the employee's name and social security number with each record.
 9. Submit the name and address of Contractor's blood lead testing lab, OSHA Center for Disease Control (CDC) listing, and certification in the State of Connecticut.
 10. Submit detailed product information on all materials and equipment proposed for demolition work on this project.
 11. Submit pertinent information regarding the qualifications of the Project Supervisor (competent person) for this project, as well as a list of past projects completed.
 12. Submit a chain-of-command for the project.
 13. Submit a site-specific Emergency Action Plan for the project.
 14. Submit a written site-specific written Respiratory Protection Program for employees for the Work, including make, model and NIOSH approval numbers of respirators to be used at the Site (if applicable).
 15. No work on the Site will be allowed to begin until the Owner and the Consultant as listed herein accept the Pre-Construction Submittals. Any delay caused by the Contractor's refusal or inability to submit this documentation accurately, completely, and in a timely manner does not constitute a cause for change order or a time extension.
- B. The following shall be submitted to the Consultant during the Work:
1. Results of personal air sampling
 2. Training and medical records for new employees to start Site work (24-hours in advance)
- C. The following shall be submitted to the Consultant at the completion of the Work:
1. Copies of all air sampling results.
 2. Contractor logs.
 3. Copies of manifests and receipts acknowledging disposal of all 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 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 air monitoring samples representative of a full shift 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 the National Institute of Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA) for use in atmospheres containing lead dust.
2. Respirators shall comply with the requirements of OSHA 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 following minimum respirator protection for use during paint removal or demolition of components and surfaces with lead paint shall be the half-face air purifying respirator with a minimum of dual P100 filter cartridges for exposures (not in excess of $500 \mu\text{g}/\text{m}^3$ 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 daily with a minimum of two complete disposable coverall suits.
3. Removal workers shall not be limited to two (2) coveralls, and the Contractor shall supply additional coveralls as necessary.
4. Under no circumstances shall anyone entering the abatement area be allowed to re-use a contaminated disposable suit.
5. Disposable suits (TYVEK™ or equivalent), and other personal protective equipment (PPE) shall be donned prior to entering a lead control area. A change room shall be provided for workers to don suits and other PPE with separate areas to store street clothes and personal belongings.

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 SDS for a particular product to be used on the project.

1.8 PERSONAL MONITORING

A. General.

1. The Contractor shall be required to perform the personal air sampling activities during lead paint disturbing work. The results of such air sampling shall be posted, provided to individual workers, and submitted to the Client as described herein.

B. Air Sampling.

1. Air samples shall be collected for the duration of the work shift or for 8-hours, whichever is less. Personal air samples need not be collected every day after the first day, if working conditions remain unchanged, but must be collected each time there is a change in removal operations, either in terms of the location or in the type of work. Sampling will be used to determine 8-hour TWA. The Contractor shall be responsible for personal air sampling as outlined in OSHA Title 29 CFR, Parts 1910.1025 & 1926.62.
2. 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 $\mu\text{g}/\text{m}^3$.

C. Testing Laboratory.

1. The Contractor's testing lab shall be currently participating in the American Industrial Hygiene Association's (AIHA) 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 Owner and Consultant prior to use. Any requests for substitution shall be provided in writing to the Owner and Consultant. The request shall clearly state the rationale for the substitution.

- B. Submit to the Owner and Consultant product data of all materials and equipment and samples of all materials to be considered as an alternate.
- C. Product data shall consist of manufacturer; catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, SDS, and other standard descriptive data. Submittal data shall be clearly marked to identify pertinent materials, products or equipment and show performance characteristics and capacities.
- D. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product or material with integrally related parts and attachment devices.

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 project including protective clothing, respirators, filter cartridges, polyethylene (poly) sheeting of proper size and thickness, tape, and air filters.
- D. Materials
 - 1. Poly sheeting in a roll size to minimize the frequency of joints shall be delivered to the Site with factory label indicating 6-mil.
 - 2. Poly disposable bags shall be 6-mil. Tie wraps for bags shall be plastic, five inches long (minimum), pointed and looped to secure filled plastic bags.
 - 3. Tape or spray adhesive will be capable of sealing joints in adjacent poly sheets and for attachment of poly sheeting to finished or unfinished surfaces of dissimilar materials and capable of adhering onto 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.
 - 5. HEPA filtered exhaust systems shall be used during powered dust-generating abatement operations. The use of powered equipment without HEPA exhausts on this Site shall be prohibited.

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).

- C. Vacuum units, of suitable size and capacities for the project, shall have HEPA filter(s) capable of trapping and retaining 99.97% of all mono-dispersed particles of 0.3 micrometers in diameter.

PART 3 - EXECUTION

3.1 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 Subcontractors. The assigned Contractor Site Supervisor must attend this meeting.
- B. The Contractor shall present a detailed project schedule and project submittal package at the Pre-Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed, and the Owner and Consultant will inform the Contractor of any scheduling adjustments for this project.
- C. Following the Pre-Construction Meeting, the Contractor shall submit a revised schedule (if needed) no later than one week after the meeting.

3.2 WORKER PROTECTION/TRAINING

- A. The Contractor shall provide appropriate training, respiratory and other PPE, 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 completed one of the following training courses:
 - 1. Lead Awareness training in accordance with the OSHA Lead-in-Construction Standard (29 CFR 1926.62)

3.3 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall be responsible for establishing and maintaining controls referenced herein to prevent dispersal of lead contamination from the lead work area.
- B. The Contractor shall also be responsible for conducting work with applicable federal, state, and local regulations as referenced herein.

3.4 WORKER HYGIENE PRACTICES *(Required during initial exposure assessment and if results of air sampling are above OSHA Action Level)*

A. Work Area Entry.

1. Workers shall 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 shall 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 shall 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, apply cosmetics, or remove their respirators in the work area.

F. Shock Hazards.

1. The Contractor shall be responsible for using safe procedures to avoid electrical hazards. All temporary electrical wiring will be protected by a ground fault circuit interrupter (GFCI).

3.5 LEAD WORK AREA *(Required during initial exposure assessment and if results of air sampling are above OSHA Action Level)*

- A. The Contractor shall place lead 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

- B. The Contractor shall designate a change room as specified in this Section. The change room shall consist of two layers of 6-mil thickness poly sheeting on the floor surface

adjacent to the lead work area. The change room shall have separate storage facilities for street clothes to avoid cross-contamination.

- C. The Contractor shall provide potable water for hand and face washing and provide a portable shower unit.
- D. The Contractor shall place 6-mil poly drop cloths on floor/ground surfaces prior to beginning removal work to facilitate clean-up.

3.6 WORK AREA CLEAN-UP

- A. The Contractor shall remove all loose chips and debris from floor surfaces and place in hazardous waste disposal bags.
- B. The Contractor shall clean using a HEPA filter equipped vacuum the adjacent surfaces to remove dust and debris.
- C. Poly drop cloths shall be cleaned and properly disposed of general construction and demolition waste.

3.7 WASTE DISPOSAL

- A. The Contractor's contractual liability shall be the proper disposal of all non-hazardous wastes generated at the Site in accordance with all applicable federal, state, and local regulations as referenced herein.
 - 1. Fuss & O'Neill, Inc. did not collect a sample for TCLP analysis for disposal characterization of the anticipated waste stream. The Consultant shall be responsible for collecting a waste characterization sample for TCLP analysis, as is required by the disposal site. Results of the TCLP analysis shall be forwarded by the Consultant to the Contractor prior to the waste being transported off of the Site. If the analytical result of the TCLP is > 5.0 milligrams per liter (mg/L), the waste shall be considered hazardous and transported and disposed as such. OR: If the analytical result of the TCLP is < 5.0 milligrams per liter (mg/L), the waste shall be considered non-hazardous and transported and disposed as such.

3.8 CONSULTANT

- A. The Owner may retain a Consultant for the purpose of construction administration and project monitoring during demolition work at the Site.
- B. The Consultant will represent the Owner in all tasks of the project at the discretion of the Owner.

3.9 CONSULTANT'S RESPONSIBILITIES

- A. The Consultant may conduct air sampling to ascertain the integrity of controls that protect the environmental from possible lead contamination. Independently, the Contractor shall

monitor air quality within the work area to ascertain the protection of employees and to comply with OSHA regulations.

- B. The Consultant's project monitor may collect and analyze air samples during the following period:
 - 1. Demolition Period. If required, the Consultant shall collect air samples on a daily basis during the work period. A sufficient number of area air samples shall be collected outside of the work area, to evaluate the degree of cleanliness or contamination of the environment during removal. Additional air samples may be collected inside the work area and decontamination system, at the discretion of the project monitor.

3.10 CONSULTANT'S INSPECTION RESPONSIBILITIES

- A. The Consultant may conduct inspections throughout the progress of the demolition project. Inspections shall be conducted to document the progress of the work, as well as the procedures and practices employed by the Contractor.
- B. The Consultant shall perform the following inspections during the course of abatement activities:
 - 1. Pre-commencement Inspection. Pre-commencement inspections shall be performed at the time requested by the Contractor. The Consultant shall be informed a minimum of 12 hours prior to the time the inspection is required. If deficiencies are identified during the pre-commencement inspection, the Contractor shall perform the necessary adjustments to obtain compliance.
 - 2. Work Area Inspections. Work area inspections shall be conducted on a daily basis at the discretion of the Consultant. During the work inspections, the Consultant will observe the Contractor's removal methods and procedures, assess project progress, and inform the Contractor of specific remedial activities if deficiencies are noted.

END OF SECTION 02 83 19

SECTION 02 84 16 - HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING
PCBs AND MERCURY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions, shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Asbestos Building Materials Inspection Report dated December 1, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Abatement Section 02 82 13.
- E. Asbestos Roofing Abatement Section 02 82 14.
- F. Lead Paint Awareness Section 02 83 19.

1.2 SUMMARY OF WORK

- A. The abatement scope of work is work necessary to facilitate existing lighting fixtures specified to be demolished as part of demolition and abatement work at the 104 Butler Street located at Meriden, Connecticut (the "Site").
- B. Fluorescent Light Ballasts: Work of this Section includes, but is not necessarily limited to, all that is necessary for complete removal and disposal of PCB or Non-PCB diethylhexyl phthalate (DEHP)-containing ballasts listed in Table 1. Work shall be performed related to demolition work necessary to facilitate building demolition. Ballasts that are to be removed shall be recycled/disposed as non-PCB containing if they have "No PCBs" labels.
- C. Fluorescent Lamps and Mercury Equipment: Work of this Section includes, but is not necessarily limited to, all that is necessary for complete removal and disposal/recycling/reclamation of presumed mercury-containing fluorescent lamps and mercury equipment, which includes thermostats, switches and devices that exist in the building demolished. Fluorescent lamps that are to be removed shall be recycled/disposed as universal wastes.
- D. The demolition scope of work is specified elsewhere in these Contract Documents. The Contractor shall coordinate this Section with other Sections for the actual quantities of the work required. Only those ballasts on light fixtures proposed for demolition require removal.

- E. The Contractor shall be responsible for verification of actual quantities of the abovementioned items requiring removal and disposal. This verification shall include an on-site walk-through of the work areas and visually inspecting ballasts for the presence of labels indicating "No PCBs". Ballasts without a label indicating "No PCBs" shall be disposed/recycled as presumed PCB-containing.

TABLE 1

TYPE/MODEL	ESTIMATED QUANTITY
DEHP-Assumed Light Ballasts	20
Exit Signs	2
Emergency Lights	4
U-Shaped Mercury-Containing Light Tube	unknown
Circular Light Tubes	unknown
2' Mercury-Containing Light Tube	unknown
4' Mercury-Containing Light Tube	unknown
High Intensity Discharge (HID) Light	unknown

1.3 REGULATIONS AND STANDARDS

- A. The following regulations and standards of federal and state agencies apply to the disposal of ballasts and are made part of this Specification by reference.
1. Toxic Substance Control Act (TSCA) (Title 40 CFR, Part 761).
 2. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Superfund Law).
 3. Department of Transportation (DOT) Regulations - DOT regulation HM-181 regulates transportation of hazardous materials, including PCBs.
 4. Occupational Safety and Health Administration (OSHA). OSHA regulates workers' safety and exposure to a variety of chemicals including PCBs.
 5. Resource Conservation and Recovery Act (RCRA). RCRA regulates wastes which fail Toxicity Characteristic Leaching Procedure (TCLP) and which contain PCBs at concentrations greater than 50 parts per million.
- B. The following regulations and standards of federal and state agencies apply to the disposal of universal waste (fluorescent lamps), and mercury-containing equipment are made part of this Specification by reference.
1. EPA RCRA Regulations Title 40 CFR, Part 261, Subpart C.
 2. EPA RCRA - 40 CFR Part 273.
 3. CERCLA (Superfund Law).
 4. DOT Regulations - Pipeline and Hazardous Materials Safety Administration regulation DOT Title 49 CFR, Parts 100-185, as applicable.
 5. OSHA Regulations Title 29 CFR, Parts 1910.1200 Hazard Communications and 1926.65.

1.4 PRE-CONSTRUCTION SUBMITTALS

- A. The Contractor shall submit to the Consultant the following submittals prior to start of the Work:
 - 1. Proposed transporter for PCB and non-PCB wastes generated as part of the project, including licenses as required, and insurance certificate.
 - 2. Proposed disposal/recycling facility proposed for PCB and non-PCB waste generated as part of the project, operating permit, and insurance certificate.
 - 3. Proposed transporter for mercury-containing universal wastes generated as part of the project, including licenses as required.
 - 4. Proposed disposal/recycling/reclamation facility proposed for mercury-containing waste generated as part of this project, operating permit, and insurance certificate.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- 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. Disposal drums shall be DOT approved.
- C. Light tube and lamp boxes shall be provided by the reclamation facility. Only new boxes shall be used.

PART 3 - EXECUTION

3.1 BALLAST REMOVAL AND PACKAGING

- A. The Contractor shall remove all ballasts from light fixtures with care.
- B. The Contractor shall pack all ballasts in appropriately sized containers or drums with care, so as not to cause ballasts to leak as a direct result of removal and packing.
- C. The Contractor shall segregate all leaking ballasts from non-leaking ballasts, separately package leaking ballasts in plastic bags, and individually drum.
- D. The Contractor shall label all drums properly. The Contractor shall supply labels. Labels shall contain the following information:
 - 1. Drum contents
 - 2. DOT description
 - 3. Name, address, and telephone number of the Owner (i.e., the Generator)
 - 4. Emergency telephone numbers
 - 5. Date on which drum was filled with ballasts
 - 6. Class 9 label

- E. The Contractor shall ensure that no other material or waste is contained in the drums except the ballasts from fluorescent light fixtures.
- F. The Contractor shall not load drum with more than 750 pounds of gross weight.
- G. The Contractor shall not use any absorbent material to pack ballasts in drums.
- H. The Contractor shall not use any plastic liners in drums.
- I. Each drum shall be sealed and stored in a secure area to minimize inadvertent damage or vandalism.
- J. The ballasts will be removed by personnel wearing chemically resistant gloves, eye protection, and proper respiratory protection.

3.2 BALLAST DISPOSAL

- A. At the completion of the removal phase of the project, a transporter licensed to haul either PCB or non-PCB waste shall be contracted for disposal of the waste generated by the project work. Chain of custody records shall be maintained which include the date of pickup, number of drums, name of the transporter, and destination of waste for disposal. The Contractor shall be responsible for all disposal costs associated with the waste generated during this project.
- B. The Contractor shall provide a Certificate of Recycling and Disposal (CRD) pursuant to EPA Title 40 CFR, Part 761, Subpart K.
- C. The Contractor shall provide waste shipment records and disposal manifests for all PCB and non-PCB wastes generated and disposed from the project site. The Owner shall be provided sufficient time to identify agent for signatures on waste documentation. Contractor shall provide waste manifest to generation and destination state as required and provide Owner (Generator copy to agent signing manifests).

3.3 COLLECTION AND CONTAINMENT OF MERCURY LAMPS AND DEVICES

- A. All fluorescent lamps and devices to be removed are to be considered mercury-containing. Lamps are to be handled by personnel wearing gloves and eye protection for protection against glass breakage, and proper respiratory protection. Lamps are to be stored unbroken in DOT approved waste containers that protect the lamps against breakage.

3.4 STORAGE AND DISPOSAL/RECYCLING OF MERCURY LAMPS AND DEVICES

- A. Each container shall be sealed and stored in a secure area to minimize inadvertent damage or vandalism. Each lamp or a container or package in which such lamps are contained must be labeled or marked clearly with one of the following phrases: "Universal Waste -- Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)".
- B. At the completion of the mercury removal phase of the project, a transporter licensed to haul mercury-containing waste shall be contracted for disposal/recycling of the mercury

waste. Chain-of-custody records shall be maintained which include the date of pickup, number of containers, name of mercury transporter, and destination of mercury waste disposal. The Contractor shall be responsible for all disposal/recycling costs associated with the mercury waste generated during this project.

- C. The Owner shall be provided a minimum of 72-hour notice of requirement for signature to identify agent for signatures on waste documentation. Contractor shall provide waste manifest to generation and destination state as required and provide Owner (Generator copy to agent signing manifests) and Consultant.

END OF SECTION 02 84 16

BUILDING DEMOLITION DRAWING SD-100

1. PROPOSED WORK WILL INCLUDE REMOVAL OF BUILDING AND FOUNDATION ELEMENTS INDICATED. ALL UTILITIES ENTERING THE BUILDINGS WILL BE CUT & CAPPED IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS, FILLED WITH NON-SHRINK GROUT OR CONTROLLED LOW STRENGTH MATERIAL OR PVC COVER IN ACCORDANCE WITH UTILITY OWNER'S REQUIREMENTS.
2. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE BY CONTRACTOR EVERY OTHER DAY AT A MINIMUM. COORDINATE WASTE REMOVAL WITH OWNER.
3. IF UTILITIES ARE FOUND TO BE SHARED WITH ANOTHER BUILDING, CONTACT THE ENGINEER OF RECORD PRIOR TO DISCONNECT OR DEMOLITION
4. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED TO ALL BUILDINGS AT ALL TIMES DURING DEMOLITION AND SITE RESTORATION.

1. REMOVE ALL VEGETATION WITHIN PROJECT LIMITS EXCEPT THOSE TREES INDICATED TO REMAIN. CUT STUMPS FLUSH WITH ADJACENT GRADE.
2. INSTALL TEMPORARY CONSTRUCTION FENCE PRIOR TO DEMOLITION AND MAINTAIN WHILE DEMOLITION ACTIVITIES ARE OCCURRING. WHERE EXISTING FENCE DOES NOT PROTECT THE PROPERTY'S BOUNDARIES, REPAIR OR REPLACE EXISTING FENCE AS NEEDED.

1. PRIOR TO CARRYING OUT ANY BUILDING DEMOLITION, DETAILED INSPECTION BY MEANS OF SURVEYS AND APPROPRIATE ASSESSMENTS SHALL BE REQUIRED. IN GENERAL, THE SURVEYS SHALL INCLUDE A STRUCTURAL SURVEY WITH PHOTOGRAPHS OR VIDEOS TAKEN FOR FUTURE REFERENCE. BASED ON THE FINDINGS OF THESE SURVEYS, A DEMOLITION PLAN MUST ALSO BE ACCOMPANIED BY A REPORT ASSESSING THE STABILITY OF THE BUILDING TO BE DEMOLISHED AND ALL AFFECTED BUILDINGS, STRUCTURES, STREETS, LAND AND UTILITIES.
2. DEMOLITION PLAN — A DEMOLITION PLAN SHALL INCLUDE THE FOLLOWING:
 - 2.1. A PLAN SHOWING THE LOCATION OF THE BUILDING TO BE DEMOLISHED, DETAILS OF GROUND REMOVAL AND/OR BACKFILLING; AND THE DISTANCES FROM THE BUILDING TO BE DEMOLISHED TO ITS ADJACENT BUILDINGS, STREETS AND STRUCTURES.
 - 2.2. A PLAN SHOWING ALL PRECAUTIONARY MEASURES FOR THE PROTECTION OF THE PUBLIC INCLUDING FENCES, COVERED WALKWAYS, CATCH PLATFORMS, SCAFFOLDING, PROTECTIVE SCREENS AND SAFETY NETS.
 - 2.3. A PLAN SHOWING THE PROPOSED SHORING AND TEMPORARY SUPPORT TO BE PROVIDED TO THE BUILDING TO BE DEMOLISHED.
3. SPRAY BUILDING MATERIALS WITH WATER IMMEDIATELY PRIOR TO BUILDING DEMOLITION. SPRAY DEBRIS PILE AS NECESSARY TO CONTROL DUST GENERATION AND MIGRATION.
4. IMMEDIATELY AFTER FUGITIVE DUST IS OBSERVED, IMPLEMENT ADDITIONAL CONTROL MEASURES INCLUDING WATER SPRAY, CALCIUM CHLORIDE SPRAY, STOCKPILE COVERING, SURFACE SWEEPING, ETC. UNTIL THE DUST IS CONTROLLED.
5. DEMOLITION PROCEDURES AND PRACTICES SHALL BE EXECUTED IN ACCORDANCE WITH OSHA, STANDARD 1926, SUB PART I.
6. NO WALL SECTION, WHICH IS MORE THAN ONE STORY IN HEIGHT, SHALL BE PERMITTED TO STAND ALONE WITHOUT LATERAL BRACING, UNLESS SUCH A WALL WAS ORIGINALLY DESIGNED AND CONSTRUCTED TO STAND WITHOUT SUCH LATERAL SUPPORT AND IS IN A CONDITION SAFE ENOUGH TO BE SELF-SUPPORTING. ALL WALLS SHALL BE LEFT IN A STABLE CONDITION AT THE END OF EACH SHIFT.
7. CONTRACTOR TO PROTECT UTILITIES AND POLES DURING ALL DEMOLITION ACTIVITIES.
8. DEMOLITION SHALL BE BY MECHANICAL OR MANUAL MEANS. THE USE OF EXPLOSIVE DEVICES IS PROHIBITED.
9. BEFORE DEMOLISHING ANY STRUCTURE DEBRIS AND OTHER MATERIAL SHALL BE REMOVED FROM INSIDE THE STRUCTURE AND ADJACENT AREAS
10. BUILDING ELEMENTS SHALL BE FULLY REMOVED. SLAB-ON-GRADE AND FOUNDATION ELEMENTS SHALL REMAIN IN PLACE.
11. DIESEL TANK STORAGE VAULT ELEMENTS SHALL BE REMOVED TO AN ELEVATION OF 1'-0" BELOW SURROUNDING FINISHED GRADE. SLAB-ON-GRADE AND FOUNDATION ELEMENTS SHALL REMAIN IN PLACE.
12. BACKFILL WITH SUITABLE FILL IN AREAS WHERE REQUIRED TO MATCH EXISTING ADJACENT GRADES.
13. CONTRACTOR SHALL PROTECT HARBOR BROOK FROM ALL CONSTRUCTION AND DEMOLITION DEBRIS THROUGHOUT DURATION OF CONSTRUCTION AND DEMOLITION ACTIVITIES.



No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL



146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

CONNECTICUT

SD-100

TABLE OF CONTENTS

SECTION B – TECHNICAL SPECIFICATIONS

Division 1	Section 01 22 00	Unit Prices
Division 2	Section 02 41 16	Building Demolition
	Section 02 82 13	Asbestos Abatement
	Section 02 82 14	Asbestos Roofing Abatement
	Section 02 83 19	Lead Paint Awareness
	Section 02 84 16	Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury
	Section 02 84 34	Presumed Polychlorinated Biphenyl Bulk Product Abatement

DRAWING

Building Demolition Drawing SD-100

ATTACHMENT

Attachment A Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Hazardous Building Materials
Inspection Report dated March 16, 2020, Revised December 3, 2021

SECTION 01 22 00 – UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. A unit price is an amount proposed by Bidders and stated on the Bid Form as a price per unit of measurement for materials or services that will be added to or deducted from the Contract Sum by Change Order in the event the project Scope of Work is altered.
- B. Unit prices include material, any direct or indirect expenses of the Contractor or Sub-Contractor, profit, insurance, bonding, and any applicable taxes. The same unit price shall apply whether the work is added or deducted.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

- A. Unit Prices in accordance with the following schedule will apply to this Contract.

Item No. 1 – MINI CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (up to 100 SF of material removal)

\$ _____ per containment

Item No. 2 – SMALL CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (>100-250 SF of material removal)

\$ _____ per containment

Item No. 3 – MEDIUM CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (>250-750 SF of material removal)

\$ _____ per containment

Item No. 4 – LARGE CONTAINMENT PREPARATION TO ENCLOSE ASBESTOS ABATEMENT (>750-2,500 SF of material removal)

\$ _____ per containment

Item No. 5 – WHITE JOINT COMPOUND AND GYPSUM BOARD WALLS AND CEILINGS REMOVAL AND DISPOSAL AS ACM

\$ _____ per square foot

Item No. 6 – TAN GLUE ASSOCIATED WITH COOL GRAY 4" VINYL COVE BASE
REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 7 – DARK BROWN CAULKING ASSOCIATED WITH TYPE 6 DOOR
REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 8 – TAN ADHESIVE ASSOCIATED WITH TAN CARPET REMOVAL AND
DISPOSAL AS ACM.

\$ _____ per square foot

Item No. 9 – GRAY CAULKING ASSOCIATED WITH LOUVRES REMOVAL AND
DISPOSAL AS ACM.

\$ _____ per linear foot

Item No. 10 – BLACK FLASHING PAPER REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 11 – BLACK FLASHING CEMENT REMOVAL AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 12 – BLACK TAR AROUND ROOF DRAIN REMOVAL AND DISPOSAL
AS ACM

\$ _____ per square foot

Item No. 13 – BLACK FLASHING UP PARAPET WALL REMOVAL AND DISPOSAL
AS ACM

\$ _____ per square foot

Item No. 14 – BLACK FLASHING CEMENT UP PARAPET WALL REMOVAL AND
DISPOSAL AS ACM

\$ _____ per square foot

Item No. 15 – PENETRATION FLASHING CEMENT REMOVAL AND DISPOSAL
AS ACM

\$ _____ per square foot

Item No. 16 – BLACK CAULKING AT TOP OF METAL FLASHING REMOVAL
AND DISPOSAL AS ACM

\$ _____ per linear foot

Item No. 17 – BROWN PAPER REMOVAL AND DISPOSAL AS ACM

\$ _____ per square foot

Item No. 18 - DISPOSE OF LEAD PAINTED WASTE AS NON-HAZARDOUS
WASTE

\$ _____ per cubic yard

\$ _____ per 55-gallon drum

Item No. 19 - DISPOSE OF LEAD PAINTED WASTE AS HAZARDOUS WASTE

\$ _____ per cubic yard

\$ _____ per 55-gallon drum

Item No. 20 – BROWN CAULKING ASSOCIATED WITH TYPE 2 DOOR REMOVAL
AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 21 – DARK GRAY CAULKING ASSOCIATED WITH TYPE 3 DOOR
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 22 – LIGHT BROWN CAULKING ASSOCIATED WITH TYPE 4 DOOR
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 23 – DARK GRAY CAULKING ASSOCIATED WITH TYPE 5 DOOR
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 24 - DARK BROWN CAULKING ASSOCIATED WITH TYPE 6 DOOR
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 25 – LIGHT GRAY GLAZING ASSOCIATED WITH TYPE 7 DOOR
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 26 – GRAY CAULKING ASSOCIATED WITH TYPE 1 WINDOW
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 27 – GRAY CAULKING ASSOCIATED WITH TYPE 2 WINDOW
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 28 – GRAY CAULKING ASSOCIATED WITH TYPE 3 WINDOW
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 29 – GRAY CAULKING ASSOCIATED WITH TYPE 4 WINDOW
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 30 – BROWN CAULKING ASSOCIATED WITH TYPE 5 WINDOW
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 31 – GRAY CAULKING ASSOCIATED WITH PORTICO WALL REMOVAL
AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 32 – LIGHT GRAY EXTERIOR HORIZONTAL JOINT CAULKING
BETWEEN BUILDING AND SIDEWALK REMOVAL AND DISPOSAL AS PCBs
BULK PRODUCT WASTE

\$ _____ per linear foot

Item No. 33 – GRAY CAULKING ASSOCIATED WITH LOUVRES REMOVAL AND
DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

FUSS & O'NEILL, INC.
20170932.C11

CITY OF MERIDEN HARBOR BROOK SEWER PROJECT
100 HANOVER STREET

Item No. 34 – ADJACENT BRICK (2 COURSES OF BRICK OR 16 INCHES)
REMOVAL AND DISPOSAL AS PCBs BULK PRODUCT WASTE

\$ _____ per linear foot

END OF SECTION 01 22 00

SECTION 02 41 16 - BUILDING DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Hazardous Building Materials Inspection Report dated March 16, 2020, Revised December 3, 2021 (Attachment A).
- C. Asbestos Abatement Section 02 82 13.
- D. Asbestos Roofing Abatement Section 02 82 14.
- E. Lead Paint Awareness Section 02 83 19
- F. Handling of Lighting Ballasts and Lamps Containing DEHP and Mercury Section 02 84 16.
- G. Presumed Polychlorinated Biphenyl Bulk Product Abatement Section 02 84 34.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of buildings.
 - 2. Abandoning in-place below-grade construction.
 - 3. Disconnecting, capping, or sealing, and abandoning in-place site utilities.
 - 4. Salvaging items for reuse by Owner.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged.
- B. Demolish: Completely remove and legally dispose of off-site.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
 - 1. Carefully salvage items requested by the Owner in a manner to prevent damage.

1.5 SUBMITTALS

- A. Qualification Data:

1. Demolition Contractor Qualifications
 - a. Connecticut Department of Public Safety Class A Demolition Contractor Certificate.
 2. For refrigerant recovery technician if required.
 3. Licensed professional engineer.
- B. Proposed Protection Measures: Submit informational report, including Drawings, that indicates the measures proposed for protecting individuals and property. Indicate proposed locations and construction of barriers.
1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain.
- C. Schedule of Building Demolition Activities: Indicate the following:
1. Detailed sequence of demolition work, with starting and ending dates for each activity.
 2. Shutoff and capping of utility services.
- D. Pre-demolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by demolition operations. Submit before the Work begins.
- E. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.
- F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI/ASSE A10.6 Standard for Safeguarding Construction, Alteration, and Demolition Operations and NFPA 241 – Standard for Safeguarding Construction, Alteration, and Demolition Operations.
- D. Demolition Firm Qualifications: An experienced firm that has completed work similar in material and extent to that indicated for this Project.
 1. Connecticut Class A licensed demolition firm.

- E. Pre-demolition Conference: Conduct conference at **100 Hanover Street, Meriden, Connecticut.**
1. Inspect and discuss condition of construction to be demolished.
 2. Review structural load limitations of existing structures.
 3. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Review and finalize protection requirements.
 5. Review procedures for protection of adjacent buildings.

1.7 PROJECT CONDITIONS

- A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.
- B. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.
1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
 2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
 - a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.
- C. Owner assumes no responsibility for buildings and structures to be demolished.
1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- D. Hazardous Materials:
1. Hazardous materials shall be removed by Contractor in accordance with Sections 028213, 028310, and 028416 and the Asbestos Abatement Plan in Exhibit A.
 2. If additional materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner.
- E. On-site storage or sale of removed items or materials is not permitted.
- F. Utility Locator Service: Comply with state laws pertaining to notifying utility companies prior to excavation. Notify Call Before You Dig at least 72 hours, exclusive of weekends and legal holidays, before site clearing. Notification must be made no more than 30 days prior to the date of excavation.
- G. The site is a regulated site under the CTDEP Hazardous Waste Management Regulations.

1.8 COORDINATION

- A. Arrange demolition schedule so as not to interfere with operations of adjacent occupied buildings.
- B. Owner to provide a list of items to be salvaged to the Contractor prior to the start of demolition.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DEMOLITION CONTRACTOR

- A. Demolition Contractor:
 - 1. Connecticut Class A licensed demolition firm.

3.2 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting demolition operations.
- B. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.
 - 1. Steel Tendons: Locate tensioned steel tendons (if applicable) and include recommendations for de-tensioning.
- D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.3 PREPARATION

- A. Refrigerant: Remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction before starting demolition.
- B. Existing Utilities: Locate, identify, disconnect, and seal or cap off indicated utilities serving buildings and structures to be demolished.
 - 1. Owner will arrange to shut off indicated utilities when requested by Contractor.

2. Cut off pipe or conduit a minimum of 24 inches below grade. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing according to requirements of authorities having jurisdiction.

- C. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of demolition.

3.4 PROTECTION

- A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

- B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations.

1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
2. Notify Engineer not less than five days in advance of proposed utility interruptions.
3. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.
 - a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.

- C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated.

1. Protect adjacent buildings and facilities from damage due to demolition activities.
2. Protect existing site improvements, appurtenances, and landscaping to remain.
3. Protect adjacent waterway(s) and resource areas from all falling debris.
4. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
5. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
6. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
7. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
8. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.
9. Protect site fences that are to remain and that are exposed to building demolition operations.
10. Install fabric screen or other device to protect surrounding areas.

- D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

- E. Store items identified by the owner to be salvaged in a secure location on site through the duration of demolition activities unless directed otherwise by the owner.

3.5 DEMOLITION, GENERAL

- A. General: Demolish indicated buildings completely. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
 - 2. Maintain fire watch during and for at least 24 hours after flame cutting operations.
 - 3. Maintain adequate ventilation when using cutting torches.
 - 4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- B. Engineering Surveys: During demolition, perform surveys to detect hazards that may result from building demolition activities.
- C. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
 - 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- D. Explosives: Use of explosives is not permitted.

3.6 DEMOLITION BY MECHANICAL MEANS

- A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
- B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 - 1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.
- C. Below-Grade Construction: Abandon foundation walls and other below-grade construction. Cut below-grade construction as indicated on the drawings.
 - 1. Core holes within bottom of vaults, chases, and below grade slabs to facilitate drainage.

D. Existing Utilities: Demolish existing utilities and below-grade utility structures as indicated.

1. Fill abandoned utility structures with recycled pulverized concrete.
2. Piping: Disconnect piping at unions, flanges, valves, or fittings.
3. Wiring Ducts: Disassemble into unit lengths and remove plug-in and disconnecting devices.
4. Remove and Dispose Electrical Utilities
 - a. Includes wiring, and lighting equipment.
 - b. Coordinate with Eversource.
5. Remove and Dispose Telecommunication Utilities
 - a. Includes wiring and equipment.
 - b. Coordinate with service provider.
6. Disconnecting gas service shall be conducted by utility provider.
 - a. Coordinate with Eversource.
7. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use either procedure below:
 - a. Close open ends of piping with at least 8-inch-thick, brick masonry bulkheads.
 - b. Close open ends of piping with threaded metal caps, plastic plugs, or other acceptable methods suitable for size and type of material being closed. Do not use wood plugs.
8. Abandoned Manholes: Excavate around manhole as required and use either procedure below:
 - a. Remove manhole and close open ends of remaining piping.
 - b. Remove top of manhole down to at least 36 inches below final grade.

3.7 SITE RESTORATION

- A. Below-Grade Areas: Completely fill below-grade areas and voids resulting from building demolition operations as indicated on the drawings.
- B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades. Furnish finished grade material as indicated on the drawings.

3.8 REPAIRS

- A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.9 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials not used as backfill from Project site.
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

- B. Do not burn demolished materials.

3.10 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.
 - 1. Clean roadways of debris caused by debris transport.

END OF SECTION 02 41 16

SECTION 02 82 13 – ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Hazardous Building Materials Inspection Report dated March 16, 2020, Revised December 3, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Roofing Abatement Section 02 82 14.
- E. Lead Paint Awareness Section 02 83 19
- F. Handling of Lighting Ballasts and Lamps Containing DEHP and Mercury Section 02 84 16.
- G. Presumed Polychlorinated Biphenyl Bulk Product Abatement Section 02 84 34.

1.2 CONSULTANT

- A. The Owner and/or Architect shall retain a Consultant for the purposes of project management and monitoring during Asbestos Abatement activities. At the discretion of the Owner, the Consultant will represent the Owner during the abatement project. The Asbestos Abatement Contractor (the "Contractor") will regard the Consultant's direction as authoritative and binding as provided herein, in matters particularly, but not limited to the following:
 - 1. Approval of work areas
 - 2. Review of monitoring results
 - 3. Completion of the various segments of work
 - 4. Final completion of the abatement
 - 5. Submission of data
 - 6. Daily field punch list items
- B. The State of Connecticut-licensed Asbestos Consultant – Project Designer for this project is Carlos Texidor (License No. 000275).

1.3 SCOPE OF WORK

- A. Work outlined in this Section includes all work necessary for the removal, packaging, transporting, and disposing of asbestos-containing materials (ACM) and asbestos impacted materials during the demolition project (the "Work") at 100 Hanover Street in Meriden,

Connecticut (the "Site"). This Work under this Contract includes, but is not limited to, asbestos abatement within and outside of the 100 Hanover Street building.

- B. This scope of work includes necessary selective demolition to access ACM scheduled for abatement.

1.4 USE OF THE CONTRACT DOCUMENTS

- A. It shall be incumbent upon the Contractor to visit the Site and determine what exists, its condition, and what will be required to accomplish the Work intended by the Contract Documents. No increase in the Contract Sum will be permitted as a result of the Contractor's failure to visit the Site and understand the existing conditions.
- B. All work shall comply with the Contract Documents and with applicable codes, laws, regulations, and ordinances wherever applicable. The most stringent of all the foregoing shall govern the Work.
- C. It is not intended that the Specifications show every detail of the Work, but the Contractor shall be required to furnish within the Contract Sum all material and labor necessary for the completion of the Work in accordance with the intent of these Specifications.
- D. In case of ambiguity among the Contract documents, the more stringent requirement as determined by the Consultant shall prevail.
- E. The Work of this Contract includes making modifications as necessary, subject to approval by the Owner in consultation with the Consultant to correct any conflicts.
- F. All items not specifically mentioned in the Specifications, but implied by trade practices to complete the Work, shall be included.

1.5 SITE EXAMINATION

- A. It is understood that the Contractor has examined the Site and made their own estimates of the facilities and difficulties attending the execution of the Work and has based their price thereon.
- B. Except for unforeseeable concealed conditions as determined by the Consultant, the Contractor shall make no claim for additional cost due to the existing conditions at the Site.

1.6 CONTRACTOR QUALIFICATIONS

- A. All bidders shall submit a record of prior experience in asbestos abatement projects, listing no less than three completed projects in the past year, with all projects of similar size and scope. The Contractor shall list the experience and training of the project foremen and all on-site personnel. The information that should be included is as follows:
 - 1. Project Name and Address
 - 2. Owner's Name and Address
 - 3. Architect/Consultant

- 4. Contract Amount
- 5. Date of Completion
- 6. Extras and Changes

- B. The Contractor selected must appear on the approved list of Asbestos Abatement Contractors on file at the State of Connecticut Department of Public Health (CTDPH) and hold a valid license for asbestos abatement within the State of Connecticut.
- C. Submit a written statement regarding whether the Contractor has ever been cited for non-compliance with federal, state, or local asbestos, lead, and/or polychlorinated biphenyl (PCB) regulations pertaining to worker protection, removal, transport, or disposal.

1.7 TESTING LABORATORY SERVICES

- A. The Contractor shall submit to the Consultant the name; address and qualifications of proposed laboratories intended to be utilized for sample analysis as required by this Section.

1.8 ADDITIONAL GENERAL REQUIREMENTS

- A. The Contractor shall employ a competent CTDPH-licensed Asbestos Abatement Supervisor with at least three years of experience on projects of similar scope and magnitude who shall be responsible for all work involving asbestos abatement as described in the specifications and defined in applicable regulations and have full-time daily supervision of the same. The Supervisor shall be the competent person as defined by Occupational Safety and Health Administration (OSHA) regulations.
- B. If required by federal, state, local, and any other authorities having jurisdiction over such work, the Contractor shall allow the work of this contract to be inspected. The Contractor shall immediately notify the Owner and Consultant and shall maintain written evidence of such inspection for review by the Owner and Consultant.
- C. The Contractor shall incur the cost of all fines resulting from regulatory non-compliance as issued by federal, state, and local agencies. The Contractor shall incur the cost of all work requirements mandated by federal, state, and local agencies as a result of regulatory non-compliance or negligence.
- D. The Contractor shall immediately notify the Owner and Consultant of the delivery of all permits, licenses, certificates of inspection, of approval, or occupancy, etc., and any other such instruments required under codes by authorities having jurisdiction, regardless of who issued, and shall cause them to be displayed to the Owner and Consultant for verification and recording.

1.9 PROJECT DESCRIPTION

- A. The base bid includes the removal, packaging, transporting, and disposing of all ACM as identified herein conducted by workers meeting the requirements of OSHA Title 29 CFR, Part 1926.1101 for Class 1 and 2 work. This shall include all necessary demolition to access the ACM for abatement.

- B. Materials as discovered outside of those listed (either above or below) will be measured and paid or credited by unit prices. The quantities are estimates only and should be verified by the Contractor.
- C. The base bid includes the following ACM:

BASE BID - ASBESTOS

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY	NOTES
1st Floor: Chapel, Side entry, Main entry, Closet, Mechanical Room, Storage room, Women's Bathroom, Men's bathroom, Office area, Office bathroom, and Stairways; 2nd Floor: Event room, Hallway, Kitchen, Small storage room, Large storage room, Washroom, Men's bathroom, Women's bathroom, Former bank main office area, Classroom, Conference room, office, HVAC mechanical room, and Loft	White joint compound and gypsum board walls and ceilings	16,476 SF	1, 3
1 st floor office area, 1st floor church office, 1st floor main entry	Tan glue associated with cool gray 4" vinyl cove base	156 LF	1
Type 6 Door – Between Chapel and main entry vestibule Interior caulking	Dark brown caulking associated with type 6 door	25 LF; 1 Door	1
Elevator Car	Tan adhesive associated with tan carpet	25 SF	1, 4
Building C Side Louvres	Gray caulking associated with louvres	40 LF	1, 2

Notes:

- Quantities shall be verified by Contractor during the time of the walk-through. Discrepancies of amounts and/or locations of asbestos-containing materials shall be addressed prior to bidding the work to the Owner and Consultant.
 - Contractor will need ladder or lift to remove caulking materials from louvers
 - Wall system including sheetrock will be considered ACM. Note that skim coat joint compound/plaster applied to CMU block in main entry is a different material and was ND for asbestos.
 - Elevator is inoperable. Technician will likely be needed to provide access.
- D. Some of the Work will be performed in multiple mobilizations, at different periods of time, in conjunction with other trades (i.e., other trades work, demolition work, etc.).
- E. Safety Data Sheets (SDS) for chemicals to be used during the project must be submitted to the Consultant prior to site delivery.
- F. Encapsulants applied to any surface that will receive a new finish that requires an adhesive must be compatible with the application of the new finish.

- G. The Contractor shall be responsible for providing temporary water, power, and heat as needed at the Site to perform the work required. Temporary lighting within the work areas must be connected to Ground Fault Circuit Interrupter (GFCI) power panels installed by a State of Connecticut-licensed electrician, permitted as required, and located outside of the work areas.

1.10 DEFINITIONS

- A. The following definitions relative to asbestos abatement apply:

1. Abatement: Procedures to control fiber release from ACM; includes removal, encapsulation, and enclosure.
2. Air Monitoring: The process of measuring the total airborne fiber concentration of an area, or a person.
3. Amended Water: Water to which a surfactant (wetting agent) has been added.
4. Architect: EDM: a person or firm professionally engaged in the design of certain large constructions other than buildings and the like.
5. 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.
6. Asbestos-Containing Materials: For the purpose of this project design, an asbestos containing material is any building material categorized by EPA as a surfacing material, thermal system insulation, or miscellaneous that contains any amount of asbestos (as defined above) based on the analytical methodology adopted by the project designer for application to subject building materials at the Site.
7. Asbestos Felt: A product made by saturating felted asbestos with asphalt, or other suitable bindery, such as a synthetic elastomer.
8. Asbestos Fibers: Those particles with a length greater than five (5) microns and a length to diameter ratio of 3:1 or greater.
9. 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 shall comply with requirements of regulated area for demarcation, access, respirators, prohibited activities, competent persons and exposure assessments and monitoring.
10. 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).
11. 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.
12. 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/mm²) of air will denote acceptable clearance sampling for Transmission Electron Microscopy (TEM).
13. 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 shall be properly trained in accordance with EPA's Model Accreditation Plan (MAP).
 14. Consultant: Fuss & O'Neill, Inc.: A company retained by the Owner with State of Connecticut-licensed asbestos designer and asbestos project monitors to provide services enumerated in this section during asbestos abatement.
 15. 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.
 16. 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.
 17. Dampproofing: Application of a water impervious material to surface (such as a wall) to prevent penetration of moisture, typically at foundation or below grade surface.
 18. 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.
 19. 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).
 20. 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.
 21. Fixed Object: Unit of equipment or furniture in the work areas that cannot be removed from the work area.
 22. Friable Asbestos Materials: Any material that contains more than 1% asbestos by weight, that can be crumbled, pulverized, or reduced to powder by hand pressure.
 23. 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.
 24. HEPA Filter: High Efficiency Particulate Air (HEPA) filter in compliance with ANSI Z9.2 1979.
 25. HEPA Vacuum Equipment: Vacuum equipment fitted with a HEPA filter system for filtering the effluent air from the unit.
 26. Movable Object: Unit of equipment or furniture in the work area that can be removed from the work area.

27. 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.
28. NESHAP: National Emission Standards for Hazardous Air Pollutants regulations enforced by the EPA.
29. Owner: The City of Meriden: An employee or executive who has the principal responsibility for a process, program, or project.
30. 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 shall be responsible for maintaining work areas in a manner that this standard is not exceeded.
31. Project Monitor: A professional capable of conducting air monitoring and analysis of schemes. This individual should be an industrial hygienist, an environmental scientist, or a Consultant 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.
32. RCRA: The Resource Conservation and Recovery Act (EPA Title 40 CFR, Parts 260 - 265).
33. 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.
34. 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.
35. Totally Enclosed Manner: A manner that will ensure no exposure of human beings or the environment to a concentration of asbestos.
36. 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.
37. 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.

1.11 SUBMITTALS

- A. The Contractor shall submit the following to the Consultant in one complete package prior to the pre-construction meeting, and no later than 10 business days prior to the anticipated start of the 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. Submit a schedule to the Owner and the Consultant that defines a timetable for executing and completing the project, including work area preparations, removal, cleanup, decontamination, and final clearance air monitoring (if applicable).
3. Submit the current valid State of Connecticut Asbestos Abatement Contractor license and certificate of insurance.
4. 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.
5. Submit the plans and construction details for the construction of the decontamination systems and the isolation of the work areas as may be necessary for compliance with this specification and applicable regulations.
6. Submit the CTDPH license, training, medical, and respirator fit test records of each employee who may be on the Site.
7. 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.
8. Submit detailed product information on all materials and equipment proposed for asbestos abatement work on this project. This includes Safety Data Sheets (SDS) on all products and chemicals that may be used on the project.
9. Submit pertinent information regarding the qualifications of the Project Supervisor (competent person) for this project, as well as a list of past projects completed.
10. Submit a chain-of-command for the project.
11. Submit a site-specific Emergency Action Plan for the project. The Plan may include emergency procedures to be followed by Contractor personnel to evacuate the building, hospital name, phone number, and most direct transportation route from the Site, emergency telephone numbers, etc.
12. 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).
13. Proposed electrical safeguards to be implemented by a qualified Electrical Contractor, including but not limited to, location of transformers, GFCI outlets, lighting, and power panels necessary to safely perform the project, including a description of electrical hazards and a safety plan for common practices in the work area. This may also include safety plan for temporary lighting, extension cord and other powered equipment used in the work area (locations, daily inspections, etc.).
14. 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.
15. No work on the Site will be allowed to begin until the Owner/Architect and the Consultant as listed herein approve the Pre-Construction Submittals. Any delay caused by the Contractor's refusal or inability to submit this documentation in a timely manner does not constitute a cause for change order or a time extension;

- B. The Contractor shall submit the following to the Consultant during the Work:
1. Copies of personal air sampling results (Consultant will not review or provide any direction or advice regarding results). The Contractor shall be responsible for proper sample analytical review and personal protective equipment (PPE) selection and use. Records are retained solely for project record.
 2. Copies of training, CTDPH certifications, fit test records, and medical records for new employees to start work (24-hours in advance) and prior to the new employee arriving at the Site.
 3. Carbon copies from waste shipment record, waste manifest records, bill of lading or other waste tracking record for all specified materials.
 4. Copies of daily log sheets, daily sign-in sheets, and containment sign-in sheets.
- C. The Contractor shall submit the following to the Consultant at the completion of the Work. The Owner reserves right to retain payment(s) until all items are received in completion:
1. Original final completed copies of the waste shipment records, signed by all transporters and the designated disposal site owner/operator.
 2. Original final completed copies of bill of lading, weight tickets, recycling tickets, and manifests for all specified materials.
 3. Contractor's logs (daily activity logs, daily sign in sheets, containment sign-in sheets), and all worker training, CTDPH certifications, medical records, and respirator fit test records.
 4. Copies of all OSHA personal monitoring results.

1.12 REGULATIONS AND STANDARDS

- A. The Contractor shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state, and local regulations and guidelines pertaining to asbestos abatement. Specifically, the Contractor shall comply with the requirements of the following:
1. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulations (Title 40 CFR, Part 61, Subpart M);
 2. EPA Asbestos Hazards Emergency Response Act (AHERA) Regulations (Title 40 CFR, Part 763, Subpart E);
 3. OSHA Asbestos Regulations (Title 29 CFR, Parts 1910.1001 and 1926.1101);
 4. Department of Transportation (DOT) Hazardous Waste Transportation Regulations (Title 49 CFR, Parts 170 – 180);
 5. Connecticut Department of Energy and Environmental Protection (CTDEEP) Regulations (Section 22a-209-8(i) and Section 22a-220 of the Connecticut General Statutes);
 6. CTDPH Standards for Asbestos Abatement (Sections 19a-332a-1 to 19a-332a-16);
 7. CTDPH Licensing and Training Requirements for Persons Engaged in Asbestos Abatement and Asbestos Consultant Services (Sections 20-440-1 to 20-440-9 and Section 20-441);
 8. 2003 International Building Code as adopted by the 2005 State of Connecticut Building Code including the 2009, 2011, 2013, 2016, and 2018 amendments;

9. Life Safety Code, National Fire Protection Association (NFPA); and
10. Local health and safety codes, ordinances or regulations pertaining to asbestos remediation and all national codes and standards including American Society of Testing and Materials (ASTM), American National Standards Institute (ANSI), and Underwriter's Laboratories (UL).

1.13 EXEMPTIONS

- A. Any deviations from these specifications require the written approval and authorization from the Owner and Consultant. Any deviations that may impact the bid cost shall be delineated with the bid for the Architect/Owner to review.
- B. Any modifications from the standard work practices identified in the CTDPH Standards for Asbestos Abatement, Sections 19a-332a-1 to 19a-332a-16 must be requested in writing and approved in writing by the CTDPH. The Consultant shall develop the Alternative Work Practice (AWP) application on behalf of the Owner. If the Contractor intends to request an AWP for this project, the nature of the AWP shall be disclosed in the bid documents and the cost savings associated with said AWP shall be provided for the Owner's consideration. An AWP shall not be filed without prior Owner's and Consultant's approval.

1.14 FINAL RE-OCCUPANCY AIR CLEARANCE (If Required)

- A. Following the completion of the encapsulation phase of the work, the Consultant shall collect final re-occupancy clearance air samples inside the work area per CTDPH Standards for Asbestos Abatement (19a-332-1 to 19a-332-16).
- B. The Owner shall be responsible for payment of the sampling and analysis of the initial final air clearance samples only. The Contractor shall be responsible for 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 shall not conduct demolition or other removal activities during final re-occupancy air clearance sampling.

1.15 NOTIFICATIONS, POSTINGS, SUBMITTALS, AND PERMITS

- A. The Contractor shall make the following notifications and provide the submittals to the following agency prior to the start of work. The CTDPH notification is required 10 calendar days prior to start of the abatement project and the EPA notification is required 10 business days prior to the start of the abatement project.
 1. Connecticut Department of Public Health
410 Capitol Avenue
MS #12 AIR
P.O. Box 340308
Hartford, CT 06134-0308

2. United States Environmental Protection Agency (USEPA)
Jordan Alves (alves.jordan@epa.gov)
Region 1- New England (OEP05-2)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

B. The minimum information included in the notification to these agencies includes:

1. Name and address of building Owner/Operator
2. Building location
3. Building size, age, and use
4. Amount of asbestos to be removed
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

1.16 WORK SITE SAFETY PLAN

A. The Contractor shall establish a set of emergency procedures and shall post them in a conspicuous place at the 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.
4. Local telephone numbers for emergency services including ambulance, fire, and police.
5. A method to notify occupants of the building in the event of a fire or other emergency requiring evacuation of the building.

B. The Contractor shall be responsible for training all workers in these procedures.

1.17 INDEPENDENT AIR SAMPLING AND ASBESTOS ABATEMENT MONITORING

A. This Section describes independent air sampling work being performed on behalf of the Owner. This work is not in the Contract Sum. This Section describes air monitoring conducted by the Consultant to verify that the building beyond the work area and the outside environment remains uncontaminated. (Personal air monitoring required by OSHA is work to be performed by the Contractor and is within the Contract Sum). Negative exposure assessments will not be reviewed and/or approved by the Consultant. It shall be the Contractor's responsibility to determine its validity.

B. The purpose of the Consultant's air monitoring is to verify proper engineering controls in the work area:

1. Contamination of the building outside of the work area by airborne fibers.
2. Failure of filtration or rupture in the differential pressure system.
3. Contamination of air outside the building envelope by airborne fibers.

- C. Should any of the above occur, the Contractor shall immediately cease asbestos abatement activities until the fault is corrected. Do not recommence work until authorized by the Consultant.
- D. The Consultant may monitor total airborne fiber concentrations in the work area. The purpose of this air monitoring will be to detect total airborne fiber concentrations, which may challenge the ability of the Work Area isolation procedures to protect the balance of the building or outside of the building from contamination by airborne fibers.
- E. To determine if the elevated total airborne fiber concentrations encountered during abatement operations have been reduced to an acceptable level, the Consultant will sample and analyze air in accordance with clearance air sampling requirements.
- F. The Consultant may perform on-site monitoring throughout the project, as follows:
 - 1. All work procedures shall be continuously monitored by the Consultant to assure that areas outside the designated work locations in the buildings will not be contaminated.
 - 2. Prior to work on any given day, the Contractor's designated "competent person" shall discuss the day's work schedule with the Consultant to evaluate job tasks with respect to safety procedures and requirements specified to prevent contamination of the building or the employees. This includes a visual work area inspection and the building or the employee decontamination. This includes a visual inspection of the work area and the decontamination enclosure systems.

1.18 CONTRACTOR'S AIR SAMPLING RESPONSIBILITY

- A. The Contractor shall independently retain an air sampling professional, or the CTDPH-licensed Asbestos Abatement Supervisor shall monitor total airborne fiber concentrations in the worker breathing zones, and to establish conditions and work procedures for maintaining compliance with OSHA Title 29 CFR, Parts 1910.1001 and 1926.1101.
- B. The Contractor's air sampling professional shall document all air sampling results and provide a report to the Consultant within 48 hours after sample collection.
- C. All air sampling shall be conducted in accordance with methods described in OSHA Title 29 CFR, Parts 1910.1001 and 1926.1101.

1.19 PROPER WORKER PROTECTION

- A. This Section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.
- B. All workers are to be accredited as Abatement Workers as required by the EPA AHERA Title 40 CFR, Parts 763 Appendix C to Subpart E, February 3, 1994.
- C. The Contractor is required to be certified and accredited as required by CTDPH.
- D. In accordance with OSHA Title 29 CFR, Part 1926, all workers shall receive a training course covering the dangers inherent in handling asbestos, the dangers of breathing asbestos dust,

proper work procedures, and proper worker protective measures. This course must include, but is not limited to the following:

1. Methods of recognizing asbestos
 2. Health effects associated with asbestos
 3. Relationship between smoking and asbestos in producing lung cancer
 4. Nature of operations that could result in exposure to asbestos
 5. Importance of and instruction in the use of necessary protective controls, practices, and procedures to minimize exposure including:
 - a. Engineering controls
 - b. Work Practices
 - c. Respirators
 - d. Housekeeping procedures
 - e. Hygiene facilities
 - f. Protective clothing
 - g. Decontamination procedures
 - h. Emergency procedures
 - i. Waste disposal procedures
 6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by OSHA Title 29 CFR, Part 1910.134
 7. Appropriate work practices for the work
 8. Requirements of medical surveillance program
 9. Review of OSHA Title 29 CFR, Part 1926
 10. Pressure Differential Systems
 11. Work practices including hands on or on job training
 12. Personal Decontamination procedures
 13. Air monitoring, personal and area
- E. The Contractor shall provide medical examinations for all workers who may encounter a total airborne fiber concentration of 0.1 fibers/cc or greater for an 8-hour TWA. In the absence of specific airborne fiber data provide medical examinations for all workers who will enter the work area for any reason. Examination shall, at a minimum, meet OSHA requirements as set forth in Title 29 CFR, Part 1926. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.
- F. Submit the following to the Consultant for review. The Contractor shall not start work until these submittals are returned with Consultant action stamp indicating that they are approved.
1. Submit copies of certificates from an EPA approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the AHERA Regulation Title 40 CFR, Part 763 Appendix C to Subpart E, February 3, 1994.
 2. Submit evidence that the Contractor is certified to perform asbestos abatement work by the CTDPH.
 3. Submit documents verifying that each worker has had a medical examination within the last 12 months as part of compliance with OSHA medical surveillance requirements. Submit, at a minimum, for each worker the following:

- a. Name and Social Security Number (minimum last 4 digits, optional)
 - b. Physician's written opinion from examining physician including at a minimum the following:
 - 1) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - 2) Any recommended limitations on the worker or on the use of PPE such as respirators.
 - 3) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
 4. Copy of information that was provided to physician in compliance with OSHA Title 29 CFR, Part 1926.
 5. Statement that worker is able to wear and use the type of respiratory protection proposed for the project and is able to work safely in an environment capable of producing heat stress in the worker.
 6. Effective June 4, 2000, submit copies of certificates for the site supervisor and the workers issued by CTDPH.
- G. Submit certification signed by an officer of the abatement-contracting firm and notarized that exposure measurement, medical surveillance, and worker training records are being kept in conformance with OSHA Title 29 CFR, Part 1926.
- H. The Contractor shall maintain control of and be responsible for access to all work areas to ensure the following requirements:
1. Non-essential personnel are prohibited from entering the area.
 2. All authorized personnel entering the work area shall read the "Worker Protection Procedures" that are posted at the entry points to the enclosure system and shall be equipped with properly fitted respirators and protective clothing.
 3. All personnel who are exiting from the decontamination enclosure system shall be properly decontaminated.
 4. Asbestos waste that is removed from the work area must be properly bagged and labeled in accordance with these Specifications. The surface of the bags shall be decontaminated. Asbestos waste removed from the NPE must be immediately transported off-site or immediately placed in locked, posted temporary storage on-site, and removed within 24 hours of the project conclusion.
 5. Any material, equipment, or supplies that are removed from the decontamination enclosure system shall be thoroughly cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

PART 2 - PRODUCTS

2.1 MATERIALS

- 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. Material that becomes contaminated with asbestos shall be decontaminated or disposed as asbestos waste.
- C. Polyethylene (poly) sheeting in a roll size to minimize the frequency of joints shall be delivered to the Site with factory label indicating 6-mil.
- D. Poly disposable bags shall be 6-mil with OSHA required pre-printed label (29 CFR, Part 1926.1101(k)(8)(iii)). Tie wraps for bags shall be plastic, five inches long (minimum), pointed and looped to secure filled plastic bags.
- E. Tape or adhesive spray will be capable of sealing joints in adjacent poly sheets and for attachment of poly sheet 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) shall consist of 50 percent polyoxyethylene ether and 50 percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of one ounce surfactant to five gallons of water or as directed by manufacturer.
- G. Removal encapsulant shall be non-flammable factory prepared penetrating chemical encapsulant deemed acceptable to Consultant. Usage shall be in accordance with manufacturer's printed technical data.
- H. The Contractor shall have available spray equipment capable of mixing wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.
- I. 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 shall be labeled in accordance with OSHA Title 29 CFR, Part 1926.1101(k)(8)(iii) [June 1, 2015, requirements]. Containers must be both air and watertight.
- J. Labels and signs, as required by OSHA Title 29 CFR, Part 1926.1101, will be used.
- K. Encapsulant shall be bridging or penetrating type which has been deemed acceptable to the Consultant. Usage shall be in accordance with manufacturer's printed technical data.
- L. HEPA filtered local exhaust ventilation shall be utilized during the installation of enclosures and supports where ACM may be disturbed.

2.2 TOOLS AND EQUIPMENT

- A. The Contractor shall provide all clean tools and equipment necessary for asbestos removal, encapsulation, and enclosure.
- B. The Contractor's air monitoring professional or Abatement Supervisor shall have air monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements. The equipment shall function properly, and

air samples shall be calibrated with a recently calibrated (within 6 calendar months and annually thereafter) rotometer.

- C. The Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, poly sheeting of proper size and thickness, tape, and air filters.
- D. The Contractor shall provide (as needed) temporary electrical power panels, electrical power cables, and electrical power sources (such as generators). Any electrical connection work affecting the building electrical power system shall be performed by a State of Connecticut-licensed electrician.
- E. The Contractor shall be responsible for coordinating electrical and water services and shall pay for these services for the duration of the project, if applicable.
- F. The Contractor shall assist the Consultant by providing necessary tools and equipment (e.g., coveralls, ladders, extension cords, lighting, etc.) for the Consultant to conduct inspections, final visual inspections, and final air clearance monitoring. The Consultant reserves the right to reject such items that are deemed unsafe and/or do not function properly and request items be replaced with adequate replacements. The work areas shall be safe to enter/occupy by the Consultant.
- G. The Contractor shall have available shower stalls and plumbing to support same to include sufficient hose length and drain system or an acceptable alternate.
- H. Exhaust air filtration system units shall contain HEPA filter(s) capable of sufficient air exhaust to create negative air pressure of at a minimum -0.02 inches of water column within enclosure with respect to outside area. Digital monometers shall be supplied for Class 1 work or Class II work if wet removal not occurring, or removal is not intact. Equipment shall be checked for proper operation by smoke tubes or differential pressure gauge before the start of each shift and at least twice during the shift. Adequate exhaust air shall be provided for a minimum of four (4) air changes per hour within the NPE. All exhaust tubes shall be routed outside through secured openings to prevent people from access into the building. The exhaust shall be away from any air intakes or openings to the building or where people may come in contact with exhausted air. No air movement system or air filtering equipment shall discharge unfiltered air. The Contractor will have reserve units so that the station system will operate continuously.
- I. Vacuum units, of suitable size and capacities for the project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter or larger.

PART 3 - EXECUTION

3.1 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 shall present a detailed project schedule and project submittals at the Pre-Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed, and the Owner and the Consultant will inform the Contractor of any scheduling adjustments for this project.
- C. Following the Pre-Construction meeting, the Contractor shall submit a revised schedule (if needed) no later than one week after the meeting.

3.2 WORK AREA PREPARATION FOR INTERIOR ABATEMENT

- A. Where necessary, deactivate electrical power, including receptacles and light fixtures. Under no circumstances during the decontamination procedures will lighting fixtures be permitted to be operating when amended water spray may contact the fixture. Provide GFCI devices, temporary power, and temporary lighting installed in compliance with the applicable electrical codes. All installations are to be made by a State of Connecticut-licensed electrician, permitted as required, and located outside the work areas.
- B. Temporary power shall be continuous power. Portable generators for use during asbestos abatement are not authorized.
- C. Deactivate and/or isolate heating, ventilation, and air conditioning (HVAC) air systems or zones to prevent contamination and fiber dispersal to other areas of the building or structure. During the work, vents within the work area shall be covered with two layers of 6-mil poly, and completely sealed with duct tape.
- D. The Contractor shall be responsible for removing furniture, equipment, and any other materials to be salvaged from the work areas. Contractor shall be responsible for removing all solid waste within the work areas (if applicable). The Contractor shall pre-clean moveable objects within the proposed work areas using HEPA filtered vacuum equipment and/or wet cleaning methods as appropriate and remove such objects from work areas. Non-porous materials (i.e., metal) shall be cleaned, visually inspected by a project monitor prior to removal from the work areas and recycling/disposal as solid waste.
- E. Completely seal all openings, including, but not limited to, windows, corridors, doorways, skylights, ducts, grills, diffusers, and any other penetration of the work areas, with poly sheeting a minimum of 6-mil thick, and sealed with duct tape. This includes doorways and corridors that will not be used for passage during work areas and occupied areas.

- F. Pre-clean fixed objects within the work areas, using HEPA vacuum equipment and/or wet cleaning methods as appropriate, and enclose with a minimum 6-mil poly sheeting completely sealed with duct tape.
- G. Clean the proposed work areas using HEPA vacuum equipment or 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 cleaning, cover fixed walls and floors. All seams and joints shall be sealed with tape or equivalent. Floor covering shall consist of at least two layers of 6 mil polyethylene and must cover at least the bottom 12 inches of adjoining wall. Wall covering shall consist of a minimum of two layers of 4 mil polyethylene sheet which shall overlap the floor covering to prevent leaks. There shall be no seams in the polyethylene sheet at the wall-to-floor joints. Ceiling covering shall consist of at least two layers of 4-mil polyethylene if applied on existing ceiling system or, if not applied directly to existing system (essentially serving as large critical barrier), the ceiling shall consist of one layer of 6-mil polyethylene sheeting and two layers of 4-mil polyethylene sheeting.
- I. Maintain emergency and fire exits from the work areas or establish alternate exits satisfactory to fire officials.
- J. Clean and remove ceiling mounted objects, such as lights and other items not sealed-off, which interfere with asbestos abatement. Use handheld amended water spraying or HEPA vacuuming equipment during fixture removal to reduce settled fiber dispersal.
- K. Create pressure differential between work areas and uncontaminated areas by the use of acceptable negative air pressure equipment sufficient to provide four air changes per hour and create negative air pressure of at a minimum -0.02 inches of water column within enclosure with respect to outside area as measured on a water gauge.

3.3 DECONTAMINATION SYSTEM

- A. The Contractor shall establish contiguous to the work area, a decontamination system consisting of equipment room, shower room, and clean room, in series. The only access between contaminated and uncontaminated areas shall be through this decontamination enclosure. If it is not feasible to erect a contiguous decontamination system, the Contractor shall establish a remote decontamination unit in as close proximity to the work area as is feasible. For exterior work, the Contractor shall establish a remote decontamination system abutting the perimeter of the regulated work area.
- B. Access between rooms in the decontamination system shall be through double-flap curtained openings. The clean room, shower, and equipment room within the decontamination enclosure, shall be completely sealed ensuring that the sole source of airflow through this area originates from uncontaminated areas outside the work area.
- C. The Contractor shall establish contiguous with the work area an equipment decontamination enclosure consisting of two totally enclosed chambers divided by a double-flapped curtained

opening. This enclosure must be constructed so as to ensure no personnel enter or exit through this unit.

- D. Occupied areas and/or building space not within the work areas shall be separated from asbestos abatement work areas by means of airtight barriers.
- E. Construct the decontamination enclosure system with wood or metal framing, cover both sides with a double layer of 6-mil poly sheeting, completely sealed with spray adhesive, and taped at the joints.
- F. If a Consultant is retained for pre-abatement services, the Contractor and the Consultant shall visually inspect the barriers several times daily to assure effective seal and the Contractor shall repair defects immediately.

3.4 ASBESTOS REMOVAL PROCEDURE - GENERAL

- A. The Contractor shall have a designated "competent person" on the Site at all times to ensure establishment of a proper enclosure system and proper work practices throughout project.
- B. Abatement work will not commence until authorized by the Consultant.
- C. The Contractor shall properly coordinate abatement work with other trades, new construction, and Site use. The Contractor shall be responsible for addressing any concerns by the Owner and/or Consultant.
- D. With a fine mist, spray ACM with amended water using airless spray equipment or apply approved removal wetting agent to reduce the release of fibers during removal operation.
- E. To maintain indoor asbestos concentrations to the minimum, the wet asbestos must be removed in manageable sections. Material drop shall not exceed 8 feet. For heights up to 15 feet, provide inclined chutes or scaffolding to intercept drop.
- F. Remove ACM as appropriate by standard methods. Fill disposal containers as removal proceeds; seal filled containers and clean containers before removal to equipment decontamination enclosure system. Wet clean each container thoroughly, double bag and apply caution label. Ensure that workers do not exit the work area thorough the equipment decontamination enclosure.
- G. After completion of stripping work, all surfaces from which asbestos has been removed shall be wet brushed, using a nylon brush, wet wiped, and sponged or cleaned by an equivalent method to remove all visible material (wire brushes are prohibited). During this work, the surfaces being cleaned shall be kept wet.
- H. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos contaminated debris. During cleanup, utilize brooms, rubber dustpan, and rubber squeegees to minimize damage to floor covering.
- I. Sealed disposal containers and all equipment used in the work area shall be included in the cleanup and shall be removed from work areas via the equipment decontamination enclosure

at an appropriate time in the cleaning sequence. All asbestos waste in 6-mil poly disposal bags shall be double-bagged in the equipment decontamination enclosure before removal from the Site.

- J. At any time during asbestos removal, should the Consultant suspect contamination of areas outside the work area(s), they shall cause all abatement work to stop until the Contractor takes the necessary steps to decontaminate these areas, and eliminate the causes of such contamination. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections certify decontamination.
- K. After completion of the initial final cleaning procedure including removal of the inner layers of poly sheeting, but prior to encapsulation, a pre-sealant inspection shall be conducted by the Consultant. The pre-sealant inspection shall verify that ACM and residual dust has been removed from the work area.

3.5 ASBESTOS REMOVAL PROCEDURES FOR EXTERIOR NON-FRIABLE MATERIALS

- A. Exterior non-friable materials which are not RACM as defined by the EPA and CTDPH are not required to be removed within a contained negative pressure enclosed work area in the State of Connecticut. This applies as long as the proposed methods of removal will not render the non-friable materials RACM during proposed removal operations.
- B. The Contractor shall have a designated "competent person" on the job at all times to ensure proper work practices throughout the project.
- C. The Contractor shall regulate the work area as required for compliance with OSHA regulation Title 29 CFR, Part 1926.1101 to prohibit non-trained workers from entering areas where ACM are to be removed.
- D. The Contractor shall establish worker decontamination unit remote from the work area.
- E. The Contractor shall spray ACM with amended water using airless spray equipment or apply approved removal wetting agent to ensure no visible emissions during removal of non-friable materials.
- F. After completion of stripping/removal work, all surfaces from which ACM has been removed shall be wet cleaned or cleaned by an equivalent method to remove all visible suspect ACM (wire brushes are prohibited). During this work, the surfaces being cleaned shall be kept adequately wet, without causing a safety hazard or creating puddles or runoff.
- G. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris. Waste shall be containerized in labeled and signed 6-mil poly disposable bags. Tie wraps for bags shall be plastic, 5 inches long (minimum), pointed and looped to secure filled plastic bags.
- H. At any time during asbestos abatement should the Consultant suspect contamination of areas outside the work area(s), they shall issue a stop work order until the Contractor takes required

steps to decontaminate these areas, and to eliminate the causes of such contamination. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections indicate acceptable decontamination.

- I. The Consultant shall conduct a final visual inspection of the work area. If residual suspect ACM debris is identified during the course of the final inspection, the Contractor shall comply with the Consultant's request to render the area clean of all residual ACM.

3.6 CONSULTANT'S RESPONSIBILITIES

- A. Air sampling may be conducted by the Consultant to ascertain the integrity of the controls that protect the building from asbestos contamination. Independently, the Contractor shall monitor air quality within the work area to ascertain the protection of employees, and to comply with OSHA regulations.

- B. The Consultant's Asbestos Project Monitor (herein "Consultant") may collect and analyze air samples during the following period:

1. Abatement Period. If required, or retained for this service, the Consultant shall collect samples on a daily basis during the work period. A sufficient number of area samples shall 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 Consultant, additional air samples may be collected inside the work area and decontamination enclosure system.
 - a. If the Consultant determines that the building air quality has become contaminated from the abatement project, they shall immediately inform the Contractor to cease all removal operations and implement a work stoppage clean-up procedure. The Contractor shall conduct a thorough clean-up of the building areas designated by the Consultant. No further removal work may occur until the Consultant has determined through air sample collection and analysis that the airborne fiber concentrations are at or below the CTDPH re-occupancy standard.

- C. The Consultant shall collect and analyze air samples during the following period:

1. Post-Abatement Period. If required, the Consultant shall conduct air sampling following the final clean-up phase of the project, once the "no visible residue" criterion, as established by the Consultant, has been met and the work area has been encapsulated by the Contractor. Five air samples shall be collected inside the work area utilizing aggressive methods to comply with the CTDPH Standards for Asbestos Abatement Section 19a-332a-12.
 - a. Final re-occupancy air clearance sampling shall be conducted by the Consultant in accordance with the CTDPH requirements using one of the following methods:
 - 1) Transmission Electron Microscopy (TEM) method with an average limit of less than 70 f/mm² of filter surface.

- 2) Phase Contrast Microscopy (PCM) with a total airborne fiber concentration limit of less than or equal to 0.010 fibers/cc.
- D. The Owner shall be responsible for payment for the initial final clearance air sampling performance only. If the first set of samples fail to satisfy the re-occupancy criteria, the Contractor shall be responsible for payment of all costs associated with the additional final clearance air sampling and analysis.
- E. The Consultant shall 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.
- F. Pre-abatement and abatement air samples shall be collected as required to obtain a volume of 1,200 liters. Samples shall be analyzed by PCM NIOSH 7400 Method.

3.7 CONSULTANT'S INSPECTION RESPONSIBILITIES

- A. The Consultant shall conduct inspections throughout the progress of the abatement project. Inspections shall be conducted to document the abatement work progress, as well as the procedures and practices employed by the Contractor.
- B. The Consultant may perform the following inspections during the abatement activities:
 1. Pre-commencement Inspection. Pre-commencement inspections shall be performed at the time requested by the Contractor. The Consultant shall be informed 12 hours prior to the time the inspection is needed. If deficiencies are noted during the pre-commencement inspection, the Contractor shall perform the necessary adjustments to obtain compliance.
 2. Work Area Inspections. Work area inspections shall be conducted on a daily basis at the discretion of the Consultant. During the work inspections, the Consultant shall 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 Consultant shall perform the following inspections during the abatement activities:
 1. Pre-sealant Inspection. Upon the request of the Contractor, the Consultant shall conduct a pre-sealant inspection. The Consultant shall be informed 12 hours prior to the time that the inspection is needed. The pre-sealant inspection shall be conducted after completion of the initial cleaning procedures, but prior to encapsulation. The pre-sealant inspection shall verify that all ACM and residual debris have been removed from the work area. If the Consultant identifies residual dust or debris during the pre-sealant inspection, the Contractor shall comply with the request of the Consultant to render the area "dust free".
 2. Final Visual Inspection. Upon request of the abatement Contractor, the Consultant shall conduct a final visual inspection. Following the removal of the inner layer of poly sheeting, but prior to final air clearance, the Consultant shall conduct a final visual inspection inside the work area. If residual dust or debris is identified during the final

inspection, the Contractor shall comply with the request of the Consultant to render the area "dust free".

3.8 RE-OCCUPANCY AIR CLEARANCE AIR TESTING

- A. After the visual inspection is completed and all surfaces in the abatement area have dried, the Consultant shall conduct final re-occupancy air clearance sampling. Aggressive air monitoring will be used. Selection of location and of samples shall be the responsibility of the Consultant. Air monitoring volumes shall be sufficient to provide a detection limit of 0.010 fibers/cc using PCM NIOSH Method 7400, or a detection limit of 70 s/mm² utilizing TEM analysis as required.
- B. Areas that do not comply with the Standard for Cleaning for Initial Clearance shall 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. This shall include all Consultant-based costs.
- C. The Contractor shall 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.

3.9 ASBESTOS DISPOSAL

- A. Asbestos-containing and/or asbestos-contaminated material disposal must be in compliance with requirements of, and authorized by the EPA, CTDEEP, and the State of Connecticut.
- B. Disposal approvals shall be obtained before commencing asbestos removal.
- C. A copy of approved disposal authorization shall be provided to the Owner and the Consultant, and any required federal, state, or local agencies.
- D. Copies of all fully executed Waste Shipment Records (WSR) will be retained by the Consultant as part of the project file. The Contractor shall document the specific amount of waste on each WSR, portion/location of the Site building it was generated from, and the type of waste. Upon receipt of the ACM waste, the landfill operator will sign the WSR, and the quantity of asbestos debris leaving the Site, and arriving at the landfill is documented for the Owner.
- E. All asbestos debris shall 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.
- F. Any vehicles used to store or transport ACM will either be removed from the Site at night, or securely locked and posted to prevent disturbance.
- G. Any incident and/or accident that may result in spilling or exposure of asbestos waste outside the containment, on and off the property, and all related issues shall be the sole responsibility of the Contractor.

FUSS & O'NEILL, INC.
20170932.C11

CITY OF MERIDEN HARBOR BROOK PROJECT
100 HANOVER STREET

END OF SECTION 02 82 13

SECTION 02 82 14 – ASBESTOS ROOFING ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Hazardous Building Materials Inspection Report dated March 16, 2020, Revised December 3, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Abatement Section 02 82 13
- E. Lead-Based Paint Awareness Section 02 83 19
- F. Handling of Lighting Ballasts and Lamps containing PCBs and Mercury Section 02 84 16
- G. Polychlorinated Biphenyl Bulk Product Abatement Section 02 84 34

1.2 CONSULTANT

- A. The Owner shall retain a Consultant for the purposes of project management and monitoring during Asbestos Roofing Abatement. The Consultant will represent the Owner in all phases of the abatement project at the discretion of the Owner. The Asbestos Abatement Roofing Contractor and/or Demolition Contractor (collectively, the "Contractor") will regard the Consultant's direction as authoritative and binding as provided herein, in matters particularly, but not limited to the following:
 - 1. Work area approval
 - 2. Monitoring results review
 - 3. Various segments of work completion
 - 4. Abatement final completion, data submission review
 - 5. Daily field punch list items
- B. The State of Connecticut licensed Asbestos Consultant – Project Designer for this project is Carlos Texidor (License # 000275).

1.3 SCOPE OF WORK

- A. Work outlined in this Section includes all work necessary for the removal, packaging, transportation, and disposal of asbestos-containing materials (ACM) located on the roof that will be impacted during the 100 Hanover Street Demolition (the "Work") at 100 Hanover Street, Meriden, Connecticut (the "Site").

- B. This shall include all necessary demolition to access the ACM for abatement.

1.4 USE OF THE CONTRACT DOCUMENTS

- A. It shall be incumbent upon the Contractor to visit the Site and determine existing conditions, and what will be required to accomplish the Work intended by the Contract Documents. No increase in the Contract Sum will be permitted as a result of the Contractor's failure to visit the building located at the Site and understand the existing conditions.
- B. All work shall comply with the Contract Documents and with applicable codes, laws, regulations, and ordinances, wherever applicable. The most stringent of all the foregoing shall govern.
- C. It is not intended that these Specifications show every detail of the Work, but the Contractor shall be required to furnish within the Contract Sum all materials and labor necessary for the completion of the Work in accordance with the intent of these Specifications.
- D. In case of ambiguity among the Contract Documents, the more stringent requirement as determined by the Consultant shall prevail.
- E. The Work of this Contract includes making modifications as necessary, subject to approval by Owner in consultation with the Consultant, to correct any conflicts between contract documents.
- F. All items that are not specifically mentioned in these Specifications but are implied by trade practices to complete the Work, shall be included.

1.5 SITE EXAMINATION

- A. It is understood that the Contractor has examined the Site and made their own estimates of the Site facilities and difficulties attending the execution of the Work and has based their bid price thereon.
- B. Except for unforeseeable concealed conditions as determined by the Consultant, the Contractor shall make no claim for additional costs due to the existing Site conditions.

1.6 CONTRACTOR QUALIFICATIONS

- A. All bidders shall submit a record of prior experience in asbestos abatement projects, listing no less than three completed projects in the past year, with all projects of similar size and scope. The Contractor shall list the experience and training of the project supervisor and all on-site personnel. The information to be included is as follows:
 - 1. Project Name and Address
 - 2. Owner's Name and Address
 - 3. Architect/Consultant
 - 4. Contract Amount

- 5. Date of Completion
- 6. Extras and Changes

- B. If the roofing materials to be removed become a regulated asbestos-containing material (RACM) during abatement, the selected Contractor must appear on the approved list of Asbestos Abatement Contractors on file at the State of Connecticut Department of Public Health (CTDPH) and hold a valid Asbestos Abatement Contractor license within the State of Connecticut.
- C. Submit a written statement regarding whether the Contractor has ever received a federal, state, or local non-compliance citation with the asbestos, lead, and/or polychlorinated biphenyl (PCB) regulations pertaining to worker protection, removal, transport, or waste disposal.

1.7 CONSTRUCTION PROGRESS SCHEDULE

- A. To assure adequate planning and execution of the Work and to assist the Consultant in reviewing the justification for the Contractor's applications for payment, the Contractor shall prepare and maintain a detailed Progress Schedule.
- B. The schedule of work of this Contract shall include the notification requirements to regulatory agencies for the work if exterior materials will become friable during proposed removal operations. It shall be incumbent upon the Contractor performing the asbestos abatement to determine if proposed removal methods shall render the asbestos-containing exterior roofing materials friable or not.
- C. The Contractor shall supervise and direct all work of theirs and other trades using their best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the work under the Contract.
- D. Due to the nature of this construction work, the scheduling or phasing of work under this Contract may be adjusted by the Owner. As long as the scope of work is not altered, adjustments to the project phasing shall have no effect on the contract price.
- E. The Contractor and any sub-contractors shall attend a pre-construction meeting. The assigned Supervisor must attend this meeting.

1.8 TESTING LABORATORY SERVICES

- A. The Contractor shall submit to the Consultant the name, address, and qualifications of proposed laboratories intended to be utilized for sample analysis as required by this Section.

1.9 ADDITIONAL GENERAL REQUIREMENTS

- A. The Contractor shall employ a competent Supervisor with at least three years of experience on projects of similar scope and magnitude who shall be responsible for all work involving asbestos abatement, as described in the specifications and defined in applicable regulations,

and have full-time daily supervision of the same. The Supervisor shall be the competent person as defined by OSHA regulations.

- B. Should the ACM become friable during removal, the Contractor shall employ a competent Asbestos Abatement Supervisor with at least three years of experience on projects of similar scope and magnitude, who shall be responsible for all work involving asbestos abatement as described in the specifications, and defined in applicable regulations, and have full-time daily supervision of the same.
- C. If requested or required by local, state, federal, and any other authorities having jurisdiction over such work, the Contractor shall allow the Work of this Contract to be inspected. The Contractor shall immediately notify the Owner and the Consultant and shall maintain written evidence of such inspection for review by the Owner and the Consultant.
- D. The Contractor shall incur the cost of all fines resulting from regulatory non-compliance, as issued by federal, state, and local agencies. The Contractor shall incur the cost of all work requirements mandated by federal, state, and local agencies as a result of regulatory non-compliance or negligence.
- E. The Contractor shall immediately notify the Owner and Consultant of the delivery of all permits, licenses, certificates of inspection, of approval, or occupancy, etc., and any other such instruments required under codes by authorities having jurisdiction, regardless of who issued, and shall cause them to be displayed to the Owner and Consultant for verification and recording.

1.10 PROJECT DESCRIPTION

- A. The base bid includes the removal, packaging, transportation, and disposal of all ACM as identified herein, conducted by workers meeting the requirements of OSHA Title 29 CFR, Part 1926.1101 for Class 2 work.
- B. The quantities listed herein are estimates only and should be verified on-site by the Contractor.
- C. This base bid includes the following materials and locations:

BASE BID - ASBESTOS

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY	NOTES
Drive through canopy roof and side entry portico roof - Flashing	Black flashing paper	40 LF	1, 2
Drive through canopy roof and side entry portico roof - Flashing	Black flashing cement	40 LF	1, 2
Drive through canopy roof	Black tar around roof drain	20 SF	1, 2
Main building roof – Flashing	Black flashing up parapet wall	390 LF	1, 2
Main building roof – Flashing	Black flashing cement up parapet wall	390 SF	1, 2
Main building roof - Penetrations	Penetration flashing cement	130 SF	1, 2

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY	NOTES
Main building roof – Flashing	Black caulking at top of metal flashing	390 LF	1, 2
Main building roof – Field	Brown paper	4,400 SF	1, 2

Notes:

1. Quantities shall be verified by Contractor during the time of the walk-through. Discrepancies of amounts and/or locations of asbestos-containing materials shall be addressed prior to bidding the work to the Owner and Consultant.
 2. Contractor will need ladder or lift to remove roofing material from roof there is no roof access through building.
- D. Elevator is inoperable. Technician will likely be needed to provide access
- E. Some of the Work will be performed in multiple mobilizations, at different periods of time, in conjunction with other trades (i.e., other trades work, demolition work, etc.).
- F. Safety Data Sheets (SDS) for chemicals to be used during the project must be submitted to the Consultant prior to site delivery.
- G. The Contractor shall be responsible for providing temporary water, power, and heat as needed at the Site. Temporary lighting within the work areas must be connected to Ground Fault Circuit Interrupter (GFCI) power panels, installed by a State of Connecticut-licensed electrician, and located outside of the work areas.
- H. The Contractor shall be responsible for providing preparation of negative pressure enclosures (NPE), cleaning, etc. at no additional cost to the Owner, if work practices result in ACM breaching the roof deck and entering the building during abatement.

1.11 DEFINITIONS

- A. The following definitions relative to asbestos roof abatement shall apply:
1. Abatement - Procedures to control fiber release from ACM; includes removal, encapsulation, and enclosure.
 2. Air Monitoring - The process of measuring the total airborne fiber concentration of an area or exposure of a person.
 3. Amended Water - Water to which a surfactant has been added.
 4. 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.
 5. Asbestos Felt - A product made by saturating felted asbestos with asphalt or other suitable bindery, such as a synthetic elastomer.
 6. Asbestos Fibers - Those particles with a length greater than five (5) microns (μ) and a length to diameter ratio of 3:1 or greater.
 7. Asbestos Work Area - A regulated area as defined by OSHA Title 29 CFR, Part 1926.1101 where asbestos abatement operations are performed that is isolated by

physical barriers to prevent the spread of asbestos dust, fibers, or debris. The regulated area shall comply with requirements of regulated area for demarcation, access, respirators, prohibited activities, competent persons and exposure assessments and monitoring.

8. Asphalt Shingles, Composition Shingles, or Strip Slates (Pitched Roof Shingle) - A roofing material manufactured by saturating a dry felt with asphalt then coating the saturated felt with a harder asphalt mixed with a fine mineral, glass fiber, asbestos, or organic stabilizer. All or part of the weather side may be covered with mineral granules, or with powdered talc or mica.
9. Base Flashing (Roof) - The flashing provided by upturned edges of a water-tight membrane on a roof. May contain metal and associated waterproofing material or combination of roofing felts and waterproofing at the joint between a roofing surface and a vertical surface, such as a wall or parapet. Also, base flashing may be present at perimeter of completely flat roof.
10. Built-Up Roofing (Composition Roofing, Felt and Gravel Roofing, Gravel Roofing) - A continuous roof covering comprised of laminations or plies of saturated or coated roofing felts, alternated with layers of asphalt or coal-tar pitch and surfaced with gravel, paint, or finish coat.
11. Category I Non-Friable Material - Asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products.
12. Category II Non-Friable Material - Any non-friable ACM not designated as Category I.
13. 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)
14. Clean Room - An uncontaminated area or room, which is a part of the worker decontamination system with provisions for storage of workers' street clothes and protective equipment.
15. Clearance Sampling - Final air sampling performed aggressively after the completion of the abatement project within 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) air samples collected inside the NPE will indicate acceptable area re-occupancy by Phase Contrast Microscopy (PCM), or five air samples collected inside the NPE by the Consultant having an average asbestos concentration of less than 70 structures per square millimeter ($< 70 \text{ s/mm}^2$) of air will indicate area re-occupancy using Transmission Electron Microscopy (TEM).
16. 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. Person who has authority to take prompt corrective measures to eliminate such hazards during asbestos removal. Competent person shall be properly trained in accordance with EPA Model Accreditation Plan (MAP).
17. Consultant - Fuss & O'Neill, Inc.

18. 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.
19. Damp proofing - The application of a water-impervious material to surface such as wall to prevent penetration of moisture, typically at foundation or below grade surface.
20. Decontamination System - A series of connected areas, with curtained doorways between any two adjacent areas, for worker and equipment decontamination. A decontamination system always contains at least one airlock and is adjacent and connected to the regulated area, where possible.
21. Encapsulant - A liquid material which can be applied to ACM that 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).
22. Equipment Room - Any contaminated area or a room that is part of the worker decontamination system with provisions for storage of contaminated clothing and equipment.
23. Fixed Object - Unit of equipment or furniture in the work area that cannot be removed from the work area.
24. Friable Asbestos Materials - Any material that contains more than 1% asbestos by weight, that can be crumbled, pulverized, or reduced to powder by hand pressure.
25. Glazing - 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.
26. GFCI - Ground Fault Circuit Interrupter
27. HEPA - High Efficiency Particulate Air
28. HEPA Filter - Filter in compliance with ANSI Z9.2 1979.
29. HEPA Vacuum Equipment - Vacuum equipment equipped with a HEPA filter system for filtering the air effluent.
30. Movable Object - Unit of equipment of furniture in the work area that can be removed from the work area.
31. 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.
32. NESHAP - National Emissions Standard for Hazardous Air Pollutants regulations enforced by the EPA.
33. Owner - The City of Meriden: An employee or executive who has the principal responsibility for a process, program, or project.
34. Penetration Roof Flashing - Flashing are used to waterproof pipes, supports, cables, and all roof protrusions.
35. Permissible Exposure Limit (PEL) - The maximum total airborne fiber concentration to which an employee is allowed to be exposed. The limit established by OSHA Title 29 CFR, Part 1926.1101 is 0.1 fibers/cc as an 8-hour TWA and 1.0 fibers/cc averaged over a sampling period of 30 minutes as an Excursion Limit. The Contractor shall be responsible for maintaining work areas in a manner that this standard is not exceeded.

36. 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.
37. Regulated Asbestos-Containing Material (RACM) - Is a friable ACM, or a Category I non-friable ACM that has become friable or will be or has been subjected to sanding, grinding, cutting, or abrading, or Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by force expected to act on the material during demolition or renovation operations.
38. Regulated Area - An area established by the employer to demarcate where Class I, II, and III asbestos abatement is conducted, and any adjoining area where debris and waste from such asbestos work accumulate, and a work area within which airborne concentrations of asbestos exceed or there is a reasonable possibility that they may exceed the PEL.
39. Shower Room - A room between the clean room and the equipment room in the work decontamination system 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.
40. 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.

1.12 SUBMITTALS

- A. The Contractor shall submit the following to the Consultant in one complete package prior to the pre-construction meeting, and no later than 10 business days prior to the anticipated start of the Work:
 1. Submit a schedule to the Owner and the Consultant that defines a timetable for executing and completing the project, including work area preparations, removal, cleanup, decontamination, and final clearance air monitoring (if applicable).
 2. Submit the current valid CTDPH Asbestos Abatement Contractor license (if materials become RACM during removal) and certificate of insurance.
 3. Submit the name and address of the hauling contractor and location of the landfill to be used. Also submit current valid operating permits and certificates of insurance for the transporter and landfill.
 4. Submit video documentation showing the conditions of the building prior to the start of work. The contractor will be held responsible for all damage to the building and its contents not shown on the video documentation.
 5. Submit the plans and construction details for the construction of the decontamination systems and the isolation of the work areas as may be necessary for compliance with this specification and applicable regulations.
 6. Submit the CTDPH license (if applicable), training, medical, and respirator fit test records of each employee who may be on the project site.

7. Submit the qualifications of the air sampling professional that the Contractor proposed to use for this project to perform OSHA-required employee exposure monitoring.
8. Submit detailed product information on all materials and equipment proposed for asbestos abatement work on this project.
9. Submit pertinent information regarding the qualifications of the Project Supervisor (competent person) for this project as well as a list of past projects completed.
10. Submit a chain-of-command for the project.
11. Submit a site-specific Emergency Action Plan for the project.
12. 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).
13. No work on the Site will be allowed to begin until the Owner and the Consultant as listed herein approve the Pre-Construction Submittals. Any delay caused by the Contractor's refusal or inability to submit this documentation in a timely manner does not constitute a cause for change order or a time extension;

B. The Contractor shall submit the following to the Consultant during the work:

1. Copies of personal air sampling results (Consultant will not review or provide any direction or advice regarding results). The Contractor shall be responsible for proper sample analytical review and personal protective equipment (PPE) selection and use. Records are retained solely for project record.
2. Copies of training, CTDPH licenses (if applicable), fit test records, and medical records for new employees to start work (24-hours in advance), and prior to the new employee arriving at the Site.
3. Carbon copies from waste shipment record, waste manifest records, bill of lading, or other waste tracking record for all specified materials.
4. Copies of daily log sheets, daily sign-in sheets, and containment sign-in sheets.

C. The Contractor shall submit the following to the Consultant at the completion of work. The Owner reserves right to retain payment(s) until all items are received in completion:

1. Original final completed copies of the waste shipment records, signed by all transporters and the designated disposal site owner/operator.
2. Original final completed copies of bill of lading, weight tickets, recycling tickets, and manifests for all specified materials.
3. Contractor's logs (daily activity logs, daily sign in sheets, containment sign-in sheets), and all worker training, CTDPH licenses (if applicable), medical records and respirator fit test records.
4. Copies of all OSHA personal monitoring results.

1.13 REGULATIONS AND STANDARDS

- A. The Contractor shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state, and local regulations and guidelines pertaining to asbestos abatement. Specifically, the Contractor shall comply with the requirements of the following:

1. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Regulations (Title 40 CFR, Part 61, Subpart M);
2. OSHA Asbestos Regulations (Title 29 CFR, Parts 1910.1001 and 1926.1101);
3. Connecticut Department of Energy and Environmental Protection (DEEP) Regulations (Section 22a 209 8(i) and Section 22a 220 of the Connecticut General Statutes);
4. CTDPH Standards for Asbestos Abatement (Sections 19a-332a- 1 to 19a-332a-16);
5. CTDPH Licensing and Training Requirements for Persons Engaged in Asbestos Abatement and Asbestos Consultant Services (Sections 20-440-1 to 20-440-9 and Section 20-441);
6. United States Department of Transportation (DOT) Hazardous Materials Regulations (Title 49 CFR, Parts 171 – 180);
7. 2003 International Building Code as adopted by the 2005 State of Connecticut Building Code including the 2009, 2011, 2013, 2016, and 2018 amendments;
8. Life Safety Code National Fire Protection Association (NFPA);
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 (UL).

1.14 EXEMPTIONS

- A. Any deviations from these specifications require the prior written approval and authorization from the Owner and the Consultant.
- B. Any modifications from the standard work practices identified in the CTDPH Standards for Asbestos Abatement, Sections 19a-332a-1 to 19a-332a-16 must be requested in writing and approved in writing by the CTDPH.

1.15 FINAL RE-OCCUPANCY AIR CLEARANCE

- A. Not applicable for exterior non-friable roof abatement project.

1.16 NOTIFICATIONS, POSTINGS, SUBMITTALS, AND PERMITS

- A. The Contractor shall make the following written notifications and provide the submittals to the following agency prior to the commencement of abatement if the work is going to render the ACM friable. The CTDPH notification is required 10 calendar days prior to start of the abatement project and the EPA notification is required 10 business days prior to the start of the abatement project:
 1. Connecticut Department of Public Health
410 Capitol Avenue
MS #12 AIR
P.O. Box 340308
Hartford, CT 06134-0308

2. United States Environmental Protection Agency (USEPA)
Jordan Alves (alves.jordan@epa.gov)
Region 1- New England (OEP05-2)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

B. The minimum information included in the notification to these agencies includes:

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
8. If landfill opens in Connecticut to accept ACM waste, Consultant will notify CTDEEP prior to utilizing said landfill

1.17 WORK SITE SAFETY PLAN

A. The Contractor shall establish a set of emergency procedures and shall post them in a conspicuous place at the 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.
4. Local telephone numbers for emergency services including ambulance, fire, and police.
5. A method to notify occupants of the building in the event of a fire or other emergency requiring evacuation of the building.

B. The Contractor shall be responsible for properly training all workers in these procedures.

1.18 INDEPENDENT AIR SAMPLING AND ASBESTOS ABATEMENT MONITORING

A. This Section describes independent air sampling work being performed on behalf of the Owner. This work is not in the Contract Sum. This Section describes air monitoring conducted by the Consultant to verify that the outside environment remains uncontaminated. (Personal air monitoring required by OSHA is work shall be performed by the Contractor and is within the Contract Sum.)

B. The purpose of the Consultant's air monitoring is to document engineering controls utilizing during asbestos abatement are functioning properly. Air monitoring will focus on possible:

1. Contamination of the building outside of the work area by airborne asbestos fibers
2. Contamination of air outside the building envelope by airborne asbestos fibers.

- C. Should either of the above be determined to have occurred based on Consultant's air monitoring, the Contractor shall immediately cease all asbestos abatement activities until the fault is corrected. Do not resume work until authorized by the Owner's Consultant. To determine if the elevated total airborne fiber concentrations encountered during abatement operations have been reduced to an acceptable level below 0.010 f/cc, the Consultant will collect and analyze air samples in accordance with re-occupancy clearance air sampling requirements.
- D. The Consultant may monitor total airborne fiber concentrations in the Work Area. The purpose of this air monitoring will be to detect airborne fiber concentrations, which may challenge the ability of the work area isolation procedures to protect the balance of the building or the building exterior from possible contamination by airborne fibers.
- E. To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to an acceptable level, the Consultant will collect and analyze air samples in accordance with clearance air sampling requirements.
- F. The Consultant may perform on-site monitoring throughout the project, as follows:
 - 1. All work procedures shall be continuously monitored by the Consultant to assure that areas outside the designated work locations in the building will not be contaminated.
 - 2. Prior to work on any given day, the Contractor's designated "Competent Person" shall discuss the day's work schedule with the Consultant to evaluate job tasks with respect to safety procedures and requirements specified to prevent building contamination or the employees. This includes a work area visual inspection and the building decontamination or the employees. This includes a work area visual inspection and the decontamination systems.

1.19 CONTRACTOR'S AIR SAMPLING RESPONSIBILITY

- A. The Contractor shall independently retain an air sampling professional to monitor total airborne fiber concentrations in the workers' breathing zone and to establish conditions and work procedures for maintaining compliance with OSHA Regulations Title 29 CFR, Parts 1910.1001 and 1926.1101.
- B. The Contractor's air sampling professional shall document all air sampling results and provide a report to the Consultant within 48-hours after sample collection.
- C. All air sampling shall be conducted in accordance with methods described in OSHA Standards Title 29 CFR, Parts 1910.1001 and 1926.1101.

1.20 PROPER WORKER PROTECTION

- A. This Section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards, except for respiratory protection.

- B. All workers are to be accredited as Abatement Workers as required by the EPA's AHERA regulation Title 40 CFR, Part 763 Appendix C to Subpart E, February 3, 1994.
- C. The Contractor must be licensed and accredited, as required by CTDPH, if removal work practices render the materials RACM.
- D. In accordance with OSHA Title 29 CFR, Part 1926, all workers shall receive a training course covering the dangers inherent in handling asbestos, the dangers of breathing asbestos dust, proper work procedures, and proper worker protective measures. This course must include, but is not limited to the following:
 - 1. Methods of recognizing asbestos
 - 2. Health effects associated with asbestos
 - 3. Relationship between smoking and asbestos in producing lung cancer
 - 4. Nature of operations that could result in exposure to asbestos
 - 5. Importance of and instruction in the use of necessary protective controls, practices, and procedures to minimize exposure including:
 - a. Engineering controls
 - b. Work Practices
 - c. Respirators
 - d. Housekeeping procedures
 - e. Hygiene facilities
 - f. Protective clothing
 - g. Decontamination procedures
 - h. Emergency procedures
 - i. Waste disposal procedures
 - 6. Purpose, proper use, fitting, instructions, and limitations of respirators as required by OSHA Title 29 CFR, Part 1910.134
 - 7. Appropriate work practices
 - 8. Requirements of medical surveillance program
 - 9. Review of OSHA Title 29 CFR, Part 1926
 - 10. Pressure Differential Systems
 - 11. Work practices including hands on or on job training
 - 12. Personal decontamination procedures
 - 13. Air monitoring (personal and area)
- E. The Contractor shall provide medical examinations for all workers who may encounter a total airborne fiber concentration of 0.1 fibers/cc or greater for an 8-hour TWA. In the absence of specific airborne fiber data, provide medical examinations for all workers who will enter the work area for any reason. Examination shall, at a minimum, meet OSHA requirements as set forth in Title 29 CFR, Part 1926. In addition, provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.
- F. Submit the following to the Consultant for review. The Contractor shall not start work until these submittals are returned with Consultant action stamp indicating that they are accepted.

1. Submit copies of certificates from an EPA-approved AHERA Abatement Worker course for each worker as evidence that each asbestos Abatement Worker is accredited as required by EPA AHERA Regulation Title 40 CFR, Part 763 Appendix C to Subpart E, February 3, 1994.
 2. Submit evidence that the Contractor is certified to perform asbestos abatement work by the State of CTDPH.
 3. Submit documents verifying that each worker has had a medical examination within the last 12 months, as part of compliance with OSHA medical surveillance requirements. Submit, at a minimum, for each worker the following:
 - a. Name and Social Security Number
 - b. Physician's Written Opinion including at a minimum the following:
 - 1) Whether worker has any detected medical conditions that would place the worker at an increased risk of material health impairment from exposure to asbestos.
 - 2) Any recommended limitations on the worker or on the use of personal protective equipment such as respirators.
 - 3) Statement that the worker has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.
 4. Copy of information that was provided to physician in compliance with OSHA Title 29 CFR, Part 1926.
 5. Statement that worker is able to wear and use the type of respiratory protection proposed for the project and is able to work safely in an environment capable of producing heat stress in the worker.
 6. Submit copies of certificates for the site supervisor and the workers issued by CTDPH.
- G. Submit certification signed by an officer of the abatement-contracting firm and notarized that personal exposure measurements, medical surveillance, and worker training records are in conformance with OSHA Title 29 CFR, Part 1926.
- H. The Contractor shall maintain control of and shall be responsible for access to all work areas to ensure the following requirements:
1. Non-essential personnel are prohibited from entering the area.
 2. All authorized personnel entering the work area shall read the "Worker Protection Procedures" which are posted at the entry points to the system and shall be equipped with properly-fitted respirators and protective clothing.
 3. All personnel who are exiting from the decontamination system shall be properly and thoroughly decontaminated.
 4. Asbestos waste that is removed from the work area must be properly containerized and labeled in accordance with these specifications. The exterior surface of the containers shall be decontaminated. Asbestos waste must be immediately transported off site or immediately placed in locked, posted temporary storage located on site, and removed within 24-hours of project completion.
 5. Any material, equipment, or supplies that are removed from the decontamination system shall be thoroughly cleaned and decontaminated by wet cleaning and/or HEPA vacuuming of all surfaces.

PART 2 - PRODUCTS

2.1 MATERIALS

- 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 Site. Material that becomes contaminated with asbestos shall be decontaminated or disposed as asbestos waste.
- C. Polyethylene (poly) sheeting in a roll size to minimize the frequency of joints shall be delivered to the Site with a factory label indicating 4 or 6-mil thickness.
- D. Poly disposable bags shall be 6-mil thickness with pertinent pre-printed label. Tie wraps for bags shall be plastic, five-inches long (minimum), pointed and looped to secure filled plastic bags.
- E. Tape or spray-adhesive will be capable of sealing joints in adjacent poly sheets, and for attachment of poly to dissimilar finished or unfinished surfaces and capable of adhering under both dry and wet conditions, including amended water.
- F. Surfactant (wetting agent) shall consist of 50 percent polyoxyethylene ether and 50 percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration of one ounce surfactant to five-gallons of water or as directed by manufacturer.
- G. Removal encapsulant shall be non-flammable factory prepared penetrating chemical encapsulant deemed acceptable to Consultant. Usage shall be in accordance with manufacturer's printed technical data.
- H. The Contractor shall have available spray equipment capable of mixing wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.
- I. Impermeable containers are to be used to receive and retain asbestos-containing or contaminated materials until disposal at an acceptable disposal site. The containers shall be labeled in accordance with OSHA Title 29 CFR, Part 1926.1101. Containers must be both air and watertight.
- J. OSHA-required asbestos labels, warning signs, and/or warning tape shall be used.
- K. Encapsulant shall be bridging or penetrating type that has been deemed acceptable to the Consultant. Usage shall be in accordance with manufacturer's printed technical data.

2.2 TOOLS AND EQUIPMENT

- A. The Contractor shall provide all tools and equipment necessary for asbestos removal, encapsulation, and enclosure.

- B. The Contractor's air monitoring professional shall have air-monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements.
- C. The Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the Work including protective clothing, respirators, filter cartridges, poly sheeting of proper size and thickness, tape, and air filters.
- D. The Contractor shall provide (as needed) temporary electrical power panels, electrical power cables, and electrical power sources (such as generators). Any electrical connection work affecting the building electrical power system shall be performed by a State of Connecticut-licensed electrician.
- E. The Contractor shall have available shower stalls and plumbing to support same to include sufficient hose length and drain system, or an acceptable alternate.
- F. Vacuum units, of suitable size and capacities for the project, shall 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.

PART 3 - EXECUTION

3.1 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 shall present a detailed project schedule and project submittal package at the Pre Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed, and the Owner and Consultant will inform the Contractor of any scheduling adjustments for this project.
- C. Following the Pre-Construction Meeting, the Contractor shall submit a revised schedule (if needed) no later than one week after the meeting.

3.2 WORK AREA PREPARATION

- A. Where necessary deactivate 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 State of Connecticut-licensed electrician.
- B. Deactivate and/or isolate heating, ventilation, and air conditioning (HVAC) air systems or zones to prevent contamination and fiber dispersal within the structure. During the work, rooftop vents around the work area shall be completely sealed with duct tape and two layers of 6-mil thick poly.

- C. Completely seal all openings, including, but not limited to, roof level HVAC air intake sources, windows adjacent to removal (within ten feet) skylights, ducts, grills, diffusers, and any other penetration of the work areas, with poly a minimum of 6-mil thick, sealed with duct tape.

3.3 DECONTAMINATION SYSTEM

- A. The Contractor shall establish on-site, a remote decontamination enclosure consisting of equipment room, shower room, and clean room in series.
- B. Access between rooms in the decontamination system shall be through double flap-curtained openings. The clean room, shower, and equipment rooms within the decontamination enclosure shall be completely sealed.
- C. Construct the decontamination system with plastic, wood, or metal framing and cover both sides with a double layer of 6-mil poly, sealed with spray glue or tape at the joints.
- D. The Contractor and the Consultant shall visually inspect barriers routinely to assure effective seal, and the Contractor shall repair defects immediately.

3.4 ASBESTOS REMOVAL PROCEDURE - GENERAL

- A. Following a federal court of appeals decision, OSHA has issued a final rule on June 29, 1998, removing regulation of asbestos-containing asphalt roof cements, mastics, and coatings from the OSHA standards for occupational exposure to asbestos in construction and shipyard work. However, friable materials (felts, papers, etc.) are still regulated by OSHA, federal (no visible emissions), and state entities.
- B. Exterior non-friable materials which are not RACM as defined by the EPA and CTDPH are not required to be removed by a CTDPH-licensed Asbestos Abatement Contractor in the State of Connecticut. This applies as long as the proposed methods of removal will not render the Category I non-friable roofing materials RACM during proposed roof removal operations.
- C. Supervisors and workers are not required to be certified in the State of Connecticut unless the Category I non-friable roofing materials become RACM. Workers must be properly trained in compliance with OSHA regulations.
- D. The Contractor shall have a designated "competent person" on the job at all times to ensure proper work practices throughout the project.
- E. The Contractor shall regulate the work area as required for compliance with OSHA regulation Title 29 CFR, Part 1926.1101 to prohibit non-trained workers from entering areas where ACM are to be removed.
- F. The Contractor shall establish worker decontamination unit remote from the work area.

- G. The Contractor shall spray ACM with amended water using airless spray equipment or apply approved removal wetting agent to ensure no visible emissions during removal of Category I non-friable roofing materials.
- H. The adequately-wet asbestos must be removed in manageable sections. Material drop shall not exceed eight feet. For heights up to 15 feet above ground surface, provide inclined chutes, or scaffolding to intercept drop. For heights exceeding 15 feet, the Contractor shall provide an enclosed dust-proof chute.
- I. After completion of stripping work, all surfaces from which ACM has been removed shall be wet cleaned or cleaned by an equivalent method to remove all visible suspect ACM (wire brushes are prohibited). During this work, the surfaces being cleaned shall be kept adequately wet, without causing a safety hazard.
- J. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris. Waste shall be containerized in labeled and signed 6-mil poly disposable bags. Tie wraps for bags shall be plastic, 5-inches long (minimum), pointed and looped to secure filled plastic bags.
- K. At any time during asbestos abatement should the Consultant suspect contamination of areas outside the work area(s), they shall issue a stop work order until the Contractor takes required steps to decontaminate these areas, and to eliminate the causes of such contamination. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections indicate acceptable decontamination.
- L. The Consultant shall conduct a final visual inspection of the work area. If residual suspect ACM debris is identified during the course of the final inspection, the Contractor shall comply with the Consultant's request to render the area clean of all residual ACM.

3.5 CONSULTANT'S RESPONSIBILITIES

- A. Air sampling shall be conducted by the Consultant to ascertain the integrity of engineering controls that protect the building from possible asbestos contamination. Independently, the Contractor shall monitor air quality within the work area to ascertain the protection of employees, and to comply with OSHA regulations.
- B. The Consultant's air sampling professional shall collect and analyze air samples during the following time period:
 - 1. Abatement Period. If required, the Consultant's project monitor shall collect air samples on a daily basis during the work period. A sufficient number of area air samples shall be collected upwind and downwind of the work area, waste debris chute (if applicable) and outside of the building to evaluate the degree of cleanliness or contamination of the building during removal. Additional air samples may be collected inside the work zone and decontamination system, at the discretion of the project monitor.

- C. The Consultant's project monitor shall provide continual evaluation of the air quality outside the building during removal, using their best professional judgment in respect to the CTDPH guideline of 0.010 f/cc, and the background air quality established during the pre-abatement period.
- D. If the project monitor determines that the air quality has become contaminated from the project, they shall immediately inform the Contractor to cease all removal operations and implement a work stoppage clean up procedure. The Contractor shall conduct a thorough cleanup of the building areas designated by the Consultant. No further removal work may occur until the project monitor has assessed that the building air has been decontaminated.
- E. Abatement air samples shall be collected as required to obtain a volume of 1,200 liters of air. Air samples shall be analyzed by PCM NIOSH Method 7400 sampling protocol.

3.6 CONSULTANT'S INSPECTION RESPONSIBILITIES

- A. Consultant shall conduct inspections throughout the progress of the abatement project. Inspections shall be conducted to document the progress of the abatement work, as well as the procedures and practices employed by the Contractor.
- B. The Consultant shall perform the following inspections during abatement activities:
 - 1. Pre-commencement Inspection. Pre-commencement inspections shall be performed at the time requested by the Contractor. The Consultant shall be informed a minimum of 12-hours prior to the time the inspection is required. If deficiencies are identified during the pre-commencement inspection, the Contractor shall perform the necessary adjustments to obtain compliance.
 - 2. Work Area Inspection. Work area inspections shall be conducted on a daily basis at the discretion of the Consultant. During the work inspections, the Consultant shall observe the Contractor's removal methods and procedures, 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. Upon request of the Contractor, the Consultant shall conduct a final work area visual inspection. If residual dust or debris is identified during the final inspection, the Contractor shall comply with the request of the Consultant to render the area "dust free."

3.7 DISPOSAL OF ASBESTOS

- A. Disposal of ACM or asbestos-contaminated material must be in compliance with requirements of and authorized by the EPA, CTDEEP, and CTDPH.
- B. Disposal approvals shall be obtained before commencing asbestos abatement.
- C. A copy of approved disposal authorization shall be provided to the Owner and Consultant, and any required federal, state, or local agencies.

- D. Copies of all fully-executed Waste Shipment Records (WSR) will be retained by the Consultant as part of the project file. The Contractor shall document the specific amount of waste on each WSR, portion/location of the Site building it was generated from, and the type of waste. Upon receipt of the ACM waste, the landfill operator will sign the WSR, and the quantity of asbestos debris leaving the Site, and arriving at the landfill is documented for the Owner.
- E. All asbestos debris shall 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.
- F. Any vehicles used to store or transport ACM will either be removed from the property at night or shall be securely locked and posted to prevent disturbance.
- G. Any incident and/or accident that may result in spilling, exposure, or environmental release of asbestos waste outside the work area, on and off the property, and all related issues shall be the sole responsibility of the Contractor.

END OF SECTION 02 82 14

SECTION 02 83 19 – LEAD PAINT AWARENESS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Hazardous Building Materials Inspection Report dated March 16, 2020, Revised December 3, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Abatement Section 02 82 13.
- E. Asbestos Roofing Abatement Section 02 82 14.
- F. Handling of Lighting Ballasts and Lamps containing PCBs and Mercury Section 02 84 16.
- G. Presumed Polychlorinated Biphenyl Bulk Product Abatement Section 02 84 34.

1.2 SUMMARY OF WORK

- A. Work of this Section includes requirements for worker protection and waste disposal related to demolition involving lead-based paint (LBP)-coated building components and surfaces (the "Work") at 100 Hanover Street in Meriden, Connecticut (the "Site").
- B. The procedures referenced herein shall be utilized during required repair/replacement work specified elsewhere that may impact building components coated with LBP. The following exterior painted components were determined to be coated with LBP by lead determination utilizing X-Ray Fluorescence (XRF):
 - 1. Exterior Wood Door Trim;
 - 2. Exterior Metal Railing;
 - 3. Exterior Wood Main Entry Overhang Components;
 - 4. Exterior Wood Window Components;
 - 5. Exterior Wood Corner board (behind cement board siding);
 - 6. Exterior Wood Siding (behind cement board siding); and
 - 7. Exterior Wood Trim/Soffit/Fascia.
- C. The demolition impacting LBP and 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. Worker protection, training, and engineering controls referenced herein shall be strictly followed, until completion of exposure assessment with results indicating exposures below the "Action Level". This Section does

not involve lead abatement but identified worker protection requirements for trades involved in the demolition and disposal procedures if lead is involved in the demolition waste stream.

- D. Construction activities disturbing surfaces with LBP and lead-containing 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). All work specified in the technical sections of the Contract Documents shall also be in conformance with this Technical Specification Section 02 83 19 for Lead Paint Awareness.

1.3 DEFINITIONS

- A. The following definitions relative to LBP shall apply:

1. Action Level (AL) - The allowable employee exposure, without regard to use of respiratory protection, to an airborne concentration of lead over an eight-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. CDC - The Center for Disease Control.
5. Change Room - An area provided with separate facilities for clean protective work clothing and equipment and for street clothes, which prevents cross-contamination.
6. Component 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.
7. Consultant - Fuss & O'Neill, Inc.
8. USEPA - United States Environmental Protection Agency.
9. Exposure Assessment - An assessment conducted by an employer to determine if any employee may be exposed to lead at or above the action level.
10. 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.
11. HUD - United States Housing and Urban Development.
12. Lead - Refers to metallic lead, inorganic lead compounds, and organic lead soaps. Excluded from this definition are other organic lead compounds.
13. 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.
14. Lead Paint - Refers to paints, glazes, and other surface coverings containing a toxic level of lead.
15. MSHA - Mine Safety and Health Administration.
16. NARI - National Association of The Remodeling Industry.
17. NIOSH - National Institute of Occupational Safety and Health.

18. OSHA - Occupational Safety and Health Administration.
19. Owner – The City of Meriden; An employee or executive who has the principal responsibility for a process, program, or project.
20. Permissible Exposure Limit (PEL) - The maximum allowable limit of exposure to an airborne concentration of lead over an eight (8)-hour TWA, as defined by OSHA. The current PEL is fifty micrograms per cubic meter of air (50 µg/m³). Extended workdays lower the PEL by the formula: PEL equals 400 divided by the number of hours of work.
21. 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 OSHA Title 29 CFR, Parts 1910.1025 and 1926.62. 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.
22. Resource Conservation and 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 in paints, excluding selenium and silver.
23. SDS - Safety Data Sheets.
24. TWA - Time Weighted Average.
25. Toxic Level of Lead - A level of lead, when present in dried paint or plaster, contains equal to or more than 0.50% lead by dry weight as measured by atomic absorption spectrophotometry (AAS) or 1.0 milligram per square centimeter (mg/cm²) as measured by on site testing utilizing an x ray fluorescence analyzer. (Term is specific to State of CT regulations and HUD guidelines only.)
26. Toxicity Characteristic Leaching Procedure (TCLP) - The United States Environmental Protection Agency (EPA) 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)
 - a. 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 1910.1200 - Hazard Communication
 - d. Title 29 CFR, Part 1926.55 - Gases, Vapors, Fumes, Dusts, and Mists
 - e. Title 29 CFR, Part 1926.57 - Ventilation
 - f. Title 29 CFR, Part 1926.59 - Hazard Communication in Construction
 - g. Title 29 CFR, Part 1926.62 - Lead in Construction Interim Final Rule
 - h. Title 40 CFR, Parts 124 and 270 - Hazardous Waste Permits
 - i. Title 49 CFR, Part 172 - Hazardous Materials Tables and Communication Regulations
 - j. Title 49 CFR, Part 178 - Shipping Container Specifications

- k. Title 40 CFR, Part 260 - Hazardous Waste Management Systems: General
- l. Title 40 CFR, Part 261 - Identification and Listing of Hazardous Waste
- m. Title 40 CFR, Part 262 - Generators of Hazardous Waste
- n. Title 40 CFR, Part 263 - Transporters of Hazardous Waste
- o. Title 40 CFR, Part 264 - Owner and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
- p. Title 40 CFR, Part 265 - Interim Statutes for Owner and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
- q. Title 40 CFR, Part 268 - Lead Disposal Restrictions
- r. Title 49 CFR, Parts 170 - 180
- 3. 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 OSHA 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 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. Hazardous Waste Management

- 1. The Contractor shall establish a Hazardous Waste Management Plan, which shall comply with applicable regulations and address the following:
 - a. Identification of hazardous wastes
 - b. Estimated quantity of waste to be disposed
 - c. Names and qualifications of each subcontractor who will be transporting, storing, treating, and disposing of wastes
 - d. Disposal facility location and 24-hour point of contact
 - e. Establish EPA state hazardous waste and identification numbers if applicable

- f. Names and qualifications (experience and training) of personnel who will be working on site with hazardous wastes.
- g. List of waste handling equipment to be used in performing the work to include cleaning, volume reduction, if applicable, and transport equipment
- h. Qualifications of laboratory to be utilized for TCLP sampling and analysis
- i. Spill prevention, containment, and countermeasure plan (SPCC)
- j. Work plan and schedule for waste containment, removal, treatment, and disposal

D. Medical Examinations

1. Before exposure to lead-contaminated dust, provide workers with a comprehensive medical examination as required by OSHA Title 29 CFR, Parts 1910.1025 and 1926.62.
2. The examination shall not be required if adequate records show that employees have been examined as required by OSHA 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.

E. Training

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

F. 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 six months thereafter, as required by OSHA Title 29 CFR, Part 1926.62.
2. The Contractor shall establish a Respiratory Protection Program in accordance with ANSI Z88.2, OSHA Title 29 CFR, Parts 1910.134 and 1926.62.

1.6 SUBMITTALS

A. The Contractor shall submit the following to the Consultant in one complete package prior to the pre-construction meeting and at least 10 business days before the start of the Work:

1. Submit a schedule to the Owner and the Consultant, which defines a timetable for executing and completing the project, including work area preparations, removal, cleanup, and decontamination.
2. Submit a current valid certificate of insurance.
3. Submit the name and address of the hauling contractor and location of the landfill to be used. Also submit current valid operating permits and certificates of insurance for the transporter and landfill.
4. Submit video documentation showing the existing building conditions prior to the start of work. The Contractor shall be responsible for all costs associated with

damage to the building and its contents that are not shown on the video documentation.

5. Submit the plans and construction details for the construction of the decontamination systems and the isolation of the work areas as may be necessary for compliance with this specification and applicable regulations.
6. Submit copies of medical records for each employee to be used on the project, including results of biological monitoring and a notarized statement by the examining physician that such an examination occurred.
7. Submit workers' valid training certificates.
8. Submit record of successful respirator fit testing performed by a qualified individual within the previous six months, for each employee to be used on this project with the employee's name and social security number with each record.
9. Submit the name and address of Contractor's blood lead testing lab, OSHA Center for Disease Control (CDC) listing, and certification in the State of Connecticut.
10. Submit detailed product information on all materials and equipment proposed for demolition work on this project.
11. Submit pertinent information regarding the qualifications of the Project Supervisor (competent person) for this project, as well as a list of past projects completed.
12. Submit a chain-of-command for the project.
13. Submit a site-specific Emergency Action Plan for the project.
14. Submit a written site-specific written Respiratory Protection Program for employees for the Work, including make, model and NIOSH approval numbers of respirators to be used at the Site (if applicable).
15. No work on the Site will be allowed to begin until the Owner and the Consultant as listed herein accept the Pre-Construction Submittals. Any delay caused by the Contractor's refusal or inability to submit this documentation accurately, completely, and in a timely manner does not constitute a cause for change order or a time extension.

B. The following shall be submitted to the Consultant during the Work:

1. Results of personal air sampling
2. Training and medical records for new employees to start Site work (24-hours in advance)

C. The following shall be submitted to the Consultant at the completion of the Work:

1. Copies of all air sampling results.
2. Contractor logs.
3. Copies of manifests and receipts acknowledging disposal of all 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 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 air monitoring samples representative of a full shift 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 the National Institute of Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA) for use in atmospheres containing lead dust.
2. Respirators shall comply with the requirements of OSHA 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 following minimum respirator protection for use during paint removal or demolition of components and surfaces with lead paint shall be the half-face air purifying respirator with a minimum of dual P100 filter cartridges for exposures (not in excess of $500 \mu\text{g}/\text{m}^3$ 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 daily with a minimum of two complete disposable coverall suits.
3. Removal workers shall not be limited to two (2) coveralls, and the Contractor shall supply additional coveralls as necessary.
4. Under no circumstances shall anyone entering the abatement area be allowed to re-use a contaminated disposable suit.
5. Disposable suits (TYVEK™ or equivalent), and other personal protective equipment (PPE) shall be donned prior to entering a lead control area. A change room shall be provided for workers to don suits and other PPE with separate areas to store street clothes and personal belongings.

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 SDS for a particular product to be used on the project.

1.8 PERSONAL MONITORING

A. General.

1. The Contractor shall be required to perform the personal air sampling activities during lead paint disturbing work. The results of such air sampling shall be posted, provided to individual workers, and submitted to the Client as described herein.

B. Air Sampling.

1. Air samples shall be collected for the duration of the work shift or for 8-hours, whichever is less. Personal air samples need not be collected every day after the first day, if working conditions remain unchanged, but must be collected each time there is a change in removal operations, either in terms of the location or in the type of work. Sampling will be used to determine 8-hour TWA. The Contractor shall be responsible for personal air sampling as outlined in OSHA Title 29 CFR, Parts 1910.1025 & 1926.62.
2. 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 $\mu\text{g}/\text{m}^3$.

C. Testing Laboratory.

1. The Contractor's testing lab shall be currently participating in the American Industrial Hygiene Association's (AIHA) 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 Owner and Consultant prior to use. Any requests for substitution shall be provided in writing to the Owner and Consultant. The request shall clearly state the rationale for the substitution.

- B. Submit to the Owner and Consultant product data of all materials and equipment and samples of all materials to be considered as an alternate.
- C. Product data shall consist of manufacturer; catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, SDS, and other standard descriptive data. Submittal data shall be clearly marked to identify pertinent materials, products or equipment and show performance characteristics and capacities.
- D. Samples shall be of sufficient size and quantity to clearly illustrate the functional characteristics of the product or material with integrally related parts and attachment devices.

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 project including protective clothing, respirators, filter cartridges, polyethylene (poly) sheeting of proper size and thickness, tape, and air filters.
- D. Materials
 - 1. Poly sheeting in a roll size to minimize the frequency of joints shall be delivered to the Site with factory label indicating 6-mil.
 - 2. Poly disposable bags shall be 6-mil. Tie wraps for bags shall be plastic, five-inches long (minimum), pointed and looped to secure filled plastic bags.
 - 3. Tape or spray adhesive will be capable of sealing joints in adjacent poly sheets and for attachment of poly sheeting to finished or unfinished surfaces of dissimilar materials and capable of adhering onto 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.
 - 5. HEPA filtered exhaust systems shall be used during powered dust-generating abatement operations. The use of powered equipment without HEPA exhausts on this Site shall be prohibited.

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).

- C. Vacuum units, of suitable size and capacities for the project, shall have HEPA filter(s) capable of trapping and retaining 99.97% of all mono-dispersed particles of 0.3 micrometers in diameter.

PART 3 - EXECUTION

3.1 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 Subcontractors. The assigned Contractor Site Supervisor must attend this meeting.
- B. The Contractor shall present a detailed project schedule and project submittal package at the Pre-Construction Meeting. Variations, amendments, and corrections to the presented schedule will be discussed, and the Owner and Consultant will inform the Contractor of any scheduling adjustments for this project.
- C. Following the Pre-Construction Meeting, the Contractor shall submit a revised schedule (if needed) no later than one week after the meeting.

3.2 WORKER PROTECTION/TRAINING

- A. The Contractor shall provide appropriate training, respiratory and other PPE, 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 completed one of the following training courses:
 - 1. EPA Lead Abatement Supervisor (40-hours)
 - 2. EPA Lead Abatement Worker (32-hours)
 - 3. EPA "Lead Safe Work Practices" Renovation Repair and Painting (RRP) Training (8-hours)
 - 4. Lead Awareness training in accordance with the OSHA Lead-in-Construction Standard (29 CFR 1926.62)

3.3 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall be responsible for establishing and maintaining controls referenced herein to prevent dispersal of lead contamination from the lead work area.
- B. The Contractor shall also be responsible for conducting work with applicable federal, state, and local regulations as referenced herein.

3.4 WORKER HYGIENE PRACTICES *(Required during initial exposure assessment and if results of air sampling are above OSHA Action Level)*

A. Work Area Entry.

1. Workers shall 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 shall 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 shall 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, apply cosmetics, or remove their respirators in the work area.

F. Shock Hazards.

1. The Contractor shall be responsible for using safe procedures to avoid electrical hazards. All temporary electrical wiring will be protected by a ground fault circuit interrupter (GFCI).

3.5 LEAD WORK AREA *(Required during initial exposure assessment and if results of air sampling are above OSHA Action Level)*

- A. The Contractor shall place lead 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

- B. The Contractor shall designate a change room as specified in this Section. The change room shall consist of two layers of 6-mil thickness poly sheeting on the floor surface

adjacent to the lead work area. The change room shall have separate storage facilities for street clothes to avoid cross-contamination.

- C. The Contractor shall provide potable water for hand and face washing and provide a portable shower unit.
- D. The Contractor shall place 6-mil poly drop cloths on floor/ground surfaces prior to beginning removal work to facilitate clean-up.

3.6 WORK AREA CLEAN-UP

- A. The Contractor shall remove all loose chips and debris from floor surfaces and place in hazardous waste disposal bags.
- B. The Contractor shall clean using a HEPA filter equipped vacuum the adjacent surfaces to remove dust and debris.
- C. Poly drop cloths shall be cleaned and properly disposed of general construction and demolition waste.

3.7 WASTE DISPOSAL

- A. The Contractor's contractual liability shall be the proper disposal of all non-hazardous wastes generated at the Site in accordance with all applicable federal, state, and local regulations as referenced herein.
 - 1. Fuss & O'Neill, Inc. did not collect a sample for TCLP analysis for disposal characterization of the anticipated waste stream. The Consultant shall be responsible for collecting a waste characterization sample for TCLP analysis, as is required by the disposal site. Results of the TCLP analysis shall be forwarded by the Consultant to the Contractor prior to the waste being transported off of the Site. If the analytical result of the TCLP is > 5.0 milligrams per liter (mg/L), the waste shall be considered hazardous and transported and disposed as such. OR: If the analytical result of the TCLP is < 5.0 milligrams per liter (mg/L), the waste shall be considered non-hazardous and transported and disposed as such.

3.8 CONSULTANT

- A. The Owner may retain a Consultant for the purpose of construction administration and project monitoring during demolition work at the Site.
- B. The Consultant will represent the Owner in all tasks of the project at the discretion of the Owner.

3.9 CONSULTANT'S RESPONSIBILITIES

- A. The Consultant may conduct air sampling to ascertain the integrity of controls that protect the environmental from possible lead contamination. Independently, the Contractor shall

monitor air quality within the work area to ascertain the protection of employees and to comply with OSHA regulations.

- B. The Consultant's project monitor may collect and analyze air samples during the following period:
 - 1. Demolition Period. If required, the Consultant shall collect air samples on a daily basis during the work period. A sufficient number of area air samples shall be collected outside of the work area, to evaluate the degree of cleanliness or contamination of the environment during removal. Additional air samples may be collected inside the work area and decontamination system, at the discretion of the project monitor.

3.10 CONSULTANT'S INSPECTION RESPONSIBILITIES

- A. The Consultant may conduct inspections throughout the progress of the demolition project. Inspections shall be conducted to document the progress of the work, as well as the procedures and practices employed by the Contractor.
- B. The Consultant shall perform the following inspections during the course of abatement activities:
 - 1. Pre-commencement Inspection. Pre-commencement inspections shall be performed at the time requested by the Contractor. The Consultant shall be informed a minimum of 12 hours prior to the time the inspection is required. If deficiencies are identified during the pre-commencement inspection, the Contractor shall perform the necessary adjustments to obtain compliance.
 - 2. Work Area Inspections. Work area inspections shall be conducted on a daily basis at the discretion of the Consultant. During the work inspections, the Consultant will observe the Contractor's removal methods and procedures, assess project progress, and inform the Contractor of specific remedial activities if deficiencies are noted.

END OF SECTION 02 83 19

SECTION 02 84 16 - HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING
PCBs AND MERCURY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions, shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Hazardous Building Materials Inspection Report dated March 16, 2020, Revised December 3, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Abatement Section 02 82 13.
- E. Asbestos Roofing Abatement Section 02 82 14.
- F. Lead Paint Awareness Section 02 83 19.
- G. Polychlorinated Biphenyl Bulk Product Abatement Section 02 84 34.

1.2 SUMMARY OF WORK

- A. The abatement scope of work is work necessary to facilitate existing lighting fixtures specified to be demolished as part of demolition and abatement work at the 100 Hanover Street located at Meriden, Connecticut] (the "Site").
- B. Fluorescent Light Ballasts: Work of this Section includes, but is not necessarily limited to, all that is necessary for complete removal and disposal of PCB or Non-PCB diethylhexyl phthalate (DEHP)-containing ballasts listed in Table 1. Work shall be performed related to demolition work necessary to facilitate building demolition. Ballasts that are to be removed shall be recycled/disposed as non-PCB containing if they have "No PCBs" labels.
- C. Fluorescent Lamps and Mercury Equipment: Work of this Section includes, but is not necessarily limited to, all that is necessary for complete removal and disposal/recycling/reclamation of presumed mercury-containing fluorescent lamps and mercury equipment, which includes thermostats, switches and devices that exist in the building demolished. Fluorescent lamps that are to be removed shall be recycled/disposed as universal wastes.
- D. The demolition scope of work is specified elsewhere in these Contract Documents. The Contractor shall coordinate this Section with other Sections for the actual quantities of the work required. Only those ballasts on light fixtures proposed for demolition require removal.

- E. The Contractor shall be responsible for verification of actual quantities of the abovementioned items requiring removal and disposal. This verification shall include an on-site walk-through of the work areas and visually inspecting ballasts for the presence of labels indicating "No PCBs". Ballasts without a label indicating "No PCBs" shall be disposed/recycled as presumed PCB-containing.

TABLE 1

TYPE/MODEL	ESTIMATED QUANTITY
DEHP-Assumed Light Ballasts	45
Exit Signs	6
Emergency Lights	4
U-Shaped Mercury-Containing Light Tube	2
Circular Light Tubes	1
2' Mercury-Containing Light Tube	107
4' Mercury-Containing Light Tube	44
High Intensity Discharge (HID) Light	5

1.3 REGULATIONS AND STANDARDS

- A. The following regulations and standards of federal and state agencies apply to the disposal of ballasts and are made part of this Specification by reference.
1. Toxic Substance Control Act (TSCA) (Title 40 CFR, Part 761).
 2. Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Superfund Law).
 3. Department of Transportation (DOT) Regulations - DOT regulation HM-181 regulates transportation of hazardous materials, including PCBs.
 4. Occupational Safety and Health Administration (OSHA). OSHA regulates workers' safety and exposure to a variety of chemicals including PCBs.
 5. Resource Conservation and Recovery Act (RCRA). RCRA regulates wastes which fail Toxicity Characteristic Leaching Procedure (TCLP) and which contain PCBs at concentrations greater than 50 parts per million.
- B. The following regulations and standards of federal and state agencies apply to the disposal of universal waste (fluorescent lamps), and mercury-containing equipment are made part of this Specification by reference.
1. EPA RCRA Regulations Title 40 CFR, Part 261, Subpart C.
 2. EPA RCRA - 40 CFR Part 273.
 3. CERCLA (Superfund Law).
 4. DOT Regulations - Pipeline and Hazardous Materials Safety Administration regulation DOT Title 49 CFR, Parts 100-185, as applicable.
 5. OSHA Regulations Title 29 CFR, Parts 1910.1200 Hazard Communications and 1926.65.

1.4 PRE-CONSTRUCTION SUBMITTALS

- A. The Contractor shall submit to the Consultant the following submittals prior to start of the Work:
 - 1. Proposed transporter for PCB and non-PCB wastes generated as part of the project, including licenses as required, and insurance certificate.
 - 2. Proposed disposal/recycling facility proposed for PCB and non-PCB waste generated as part of the project, operating permit, and insurance certificate.
 - 3. Proposed transporter for mercury-containing universal wastes generated as part of the project, including licenses as required.
 - 4. Proposed disposal/recycling/reclamation facility proposed for mercury-containing waste generated as part of this project, operating permit, and insurance certificate.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- 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. Disposal drums shall be DOT approved.
- C. Light tube and lamp boxes shall be provided by the reclamation facility. Only new boxes shall be used.

PART 3 - EXECUTION

3.1 BALLAST REMOVAL AND PACKAGING

- A. The Contractor shall remove all ballasts from light fixtures with care.
- B. The Contractor shall pack all ballasts in appropriately sized containers or drums with care, so as not to cause ballasts to leak as a direct result of removal and packing.
- C. The Contractor shall segregate all leaking ballasts from non-leaking ballasts, separately package leaking ballasts in plastic bags, and individually drum.
- D. The Contractor shall label all drums properly. The Contractor shall supply labels. Labels shall contain the following information:
 - 1. Drum contents
 - 2. DOT description
 - 3. Name, address, and telephone number of the Owner (i.e., the Generator)
 - 4. Emergency telephone numbers
 - 5. Date on which drum was filled with ballasts
 - 6. Class 9 label

- E. The Contractor shall ensure that no other material or waste is contained in the drums except the ballasts from fluorescent light fixtures.
- F. The Contractor shall not load drum with more than 750 pounds of gross weight.
- G. The Contractor shall not use any absorbent material to pack ballasts in drums.
- H. The Contractor shall not use any plastic liners in drums.
- I. Each drum shall be sealed and stored in a secure area to minimize inadvertent damage or vandalism.
- J. The ballasts will be removed by personnel wearing chemically resistant gloves, eye protection, and proper respiratory protection.

3.2 BALLAST DISPOSAL

- A. At the completion of the removal phase of the project, a transporter licensed to haul either PCB or non-PCB waste shall be contracted for disposal of the waste generated by the project work. Chain of custody records shall be maintained which include the date of pickup, number of drums, name of the transporter, and destination of waste for disposal. The Contractor shall be responsible for all disposal costs associated with the waste generated during this project.
- B. The Contractor shall provide a Certificate of Recycling and Disposal (CRD) pursuant to EPA Title 40 CFR, Part 761, Subpart K.
- C. The Contractor shall provide waste shipment records and disposal manifests for all PCB and non-PCB wastes generated and disposed from the project site. The Owner shall be provided sufficient time to identify agent for signatures on waste documentation. Contractor shall provide waste manifest to generation and destination state as required and provide Owner (Generator copy to agent signing manifests).

3.3 COLLECTION AND CONTAINMENT OF MERCURY LAMPS AND DEVICES

- A. All fluorescent lamps and devices to be removed are to be considered mercury-containing. Lamps are to be handled by personnel wearing gloves and eye protection for protection against glass breakage, and proper respiratory protection. Lamps are to be stored unbroken in DOT approved waste containers that protect the lamps against breakage.

3.4 STORAGE AND DISPOSAL/RECYCLING OF MERCURY LAMPS AND DEVICES

- A. Each container shall be sealed and stored in a secure area to minimize inadvertent damage or vandalism. Each lamp or a container or package in which such lamps are contained must be labeled or marked clearly with one of the following phrases: "Universal Waste -- Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)".
- B. At the completion of the mercury removal phase of the project, a transporter licensed to haul mercury-containing waste shall be contracted for disposal/recycling of the mercury

waste. Chain-of-custody records shall be maintained which include the date of pickup, number of containers, name of mercury transporter, and destination of mercury waste disposal. The Contractor shall be responsible for all disposal/recycling costs associated with the mercury waste generated during this project.

- C. The Owner shall be provided a minimum of 72-hour notice of requirement for signature to identify agent for signatures on waste documentation. Contractor shall provide waste manifest to generation and destination state as required and provide Owner (Generator copy to agent signing manifests) and Consultant.

END OF SECTION 02 84 16

SECTION 02 84 34 – PRESUMED POLYCHLORINATED BIPHENYL REMOVAL & DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General Provisions of Contract, including General Supplementary Conditions shall apply to this Section.
- B. Fuss & O'Neill, Inc. (Fuss & O'Neill) Limited Hazardous Building Materials Inspection Report dated March 16, 2020, Revised December 3, 2021 (Attachment A).
- C. Building Demolition Section 02 41 16.
- D. Asbestos Abatement Section 02 82 13.
- E. Asbestos Roofing Removal Section 02 82 14.
- F. Lead-Based Paint Awareness Section 02 83 19.
- G. Handling of Lighting Ballasts and Lamps Containing PCBs and Mercury Section 02 84 16.

1.2 CONSULTANT

- A. The Owner has retained Fuss & O'Neill, Inc. (the "Consultant") for the purposes of project management and monitoring during presumed Polychlorinated Biphenyl (PCB) Bulk Product Waste Removal & Disposal. The Consultant will represent the Owner in all phases of the project at the discretion of the Owner. The PCB Abatement Contractor, Asbestos Abatement Contractor, Demolition Contractor, and/or other Building Trades (collectively the "Contractor") shall regard the Consultant's direction as authoritative and binding as provided herein, in matters particularly, but not limited to the following:
 - 1. Work area approval
 - 2. Monitoring results review
 - 3. Various segments of work completion
 - 4. Abatement final completion
 - 5. Data submission review
 - 6. Daily field punch list items

1.3 SCOPE OF WORK

- A. Work outlined in this Section includes all work necessary for the removal and disposal of the presumed greater than or equal to (\geq) 50 parts per million (ppm) PCB-containing material (PCB Bulk Product Waste herein) impacted during the during the demolition project (the "Work") at 100 Hanover Street in Meriden, Connecticut (the "Site").

B. The Work of this Section includes the following:

1. Site preparation and controls to facilitate renovation and minor disturbance of PCB Bulk Product Waste.
2. Health and Safety in accordance with Occupational Safety and Health Administration (OSHA) requirements.
3. Removal and cleaning of the work areas following impacts to painted surfaces coated with presumed PCB Bulk Product Waste.
4. Packaging, transportation, and disposal of presumed PCB Bulk Product Waste at a facility permitted to accept PCB Bulk Product Waste (Abatement Contractor's Responsibility).
5. Packaging, transportation, and disposal of containment, personal protection equipment (PPE), cleaning materials and supplies, and waste generated during impacts to painted surfaces coated with presumed PCB Bulk Product Waste and PCB Remediation Waste at a facility permitted to accept PCB Remediation Waste (Abatement Contractor's Responsibility).
6. Recordkeeping and distribution as required in accordance with EPA Title 40 CFR, Part 761.125 (c) (5).

1.4 USE OF THE CONTRACT DOCUMENTS

- A. All work shall comply with the Contract Documents and with applicable codes, laws, regulations, and ordinances wherever applicable. The most stringent of all the foregoing shall govern the Work.
- B. It is not intended that the Specifications show every detail of the Work, but the Contractor shall be required to furnish within the Contract Sum all materials and labor necessary for the completion of the Work in accordance with the intent of the Specifications.
- C. In case of ambiguity among the Contract documents, the more stringent requirement as determined by the Consultant shall prevail.
- D. The Work of this Contract includes making modifications as necessary, subject to approval by Owner in consultation with the Consultant, to correct any conflicts between Contract Documents.
- E. All items, not specifically mentioned in the Specifications, but implied by trade practices to complete the Work, shall be included.

1.5 SITE EXAMINATION

- A. Except for unforeseeable concealed conditions as determined by the Consultant, the Contractor shall make no claim for additional cost due to the existing Site conditions.

1.6 ADDITIONAL GENERAL REQUIREMENTS

- A. The Contractor shall furnish all labor, materials, equipment, current employee training medical surveillance clearance and fit tests for assigned respirators and incidentals

necessary to perform the specified work. Work shall be performed in accordance with the Contract Documents, the latest regulations from OSHA, the United State Environmental Protection Agency (EPA), and all other applicable federal, state, and local agencies. Whenever the requirements of the above references conflict or overlap, the more stringent provision shall apply.

- B. All project personnel engaged in the work covered under this section shall be trained in accordance with OSHA Title 29 CFR, Parts 1910.1000 and 1910.1200.
- C. This Section specifies the procedures for removal and disposal of removed materials as presumed PCB Bulk Product Waste.
- D. This Section also specifies the procedures for removal of containment, PPE, cleaning materials and supplies, and waste generated during removal of assumed PCB Bulk Product Waste and disposal of containment, PPE, cleaning materials and supplies, and waste generated during removal of PCB Bulk Product Waste as PCB Remediation Waste.
- E. Subsequent cleaning of all adjacent surfaces upon completion of Work is also included in this Section.
- F. Disturbance or removal of assumed PCB-containing material may cause a health hazard to workers and building occupants. The Contractor shall disclose to workers, supervisory personnel, sub-contractors, and consultants who will be at the Site of the seriousness of the hazard and proper work procedures that must be followed.
- G. During performance of the Work, workers, supervisory personnel, Subcontractors, or consultants who may encounter, disturb, or otherwise function in the immediate vicinity of the assumed PCB-containing material, shall take continuous measures as necessary to protect workers from the hazard of exposure. Such measures shall include the procedures and methods described in this Section, OSHA regulations, EPA regulations, and local requirements, as applicable.
- H. If requested or required by local, state, federal, and any other authorities having jurisdiction over such work, the Contractor shall allow the Work of this Contract to be inspected. The Contractor shall immediately notify the Owner and the Consultant and shall maintain written evidence of such inspection for review by the Owner and the Consultant.
- I. The Contractor shall incur the cost of all fines resulting from regulatory non-compliance, as issued by federal, state, and local agencies. The Contractor shall incur the cost of all work requirements mandated by federal, state, and local agencies as a result of regulatory non-compliance, or negligence.

1.7 PROJECT DESCRIPTION

- A. This work includes impacts to the following Presumed PCB Bulk Product Waste and the generation of PCB Remediation Waste:

BASE BID – PRESUMED PCB BULK PRODUCT WASTE

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY	NOTES
Type 2 Door – Interior Caulking	Brown Caulking associated with Type 2 Door	22 LF 1 Door	1, 2
Type 3 Door – Interior Caulking	Dark Gray Caulking associated with Type 3 Door	22.75 LF 1 Door	1, 2
Type 4 Door – Exterior Caulking	Light Brown Caulking associated with Type 4 Door	22 LF 1 Door	1, 2
Type 5 Door – Interior Caulking	Dark Gray Caulking associated with Type 5 Door	35 LF 1 Door	1, 2
Type 6 Door – Interior Caulking	Dark Brown Caulking associated with Type 6 Door	25 LF 1 Door	1, 2
Type 7 Door – Interior Glazing	Light Gray Glazing associated with Type 7 Door	12 LF 1 Door	1, 2
Type 1 Windows - Throughout	Gray Caulking associated with Type 1 Window	697 LF 41 Windows	1, 2
Type 2 Windows - A Side Second Floor	Gray Caulking associated with Type 2 Window	110 LF 5 Windows	1, 2
Type 3 Windows - A Side Second Floor	Gray Caulking associated with Type 3 Window	21 LF 1 Windows	1, 2
Type 4 Windows - B And D Side Attic Level	Gray Caulking associated with Type 4 Window	112 LF 8 Windows	1, 2
Type 5 Windows - Side Bank Drive Through Windows	Brown Caulking associated with Type 5 Window	32 LF 2 Windows	1, 2
Bank Drive Through Roof Where Metal Meets Brick Façade	Gray Caulking associated with Portico Wall	12 LF	1, 2
A Side Exterior By Sidewalk	Light Gray Exterior Horizontal Joint Caulking Between Building And Sidewalk	155 LF	1, 2
Building C Side Louvres	Gray caulking associated with louvres	40 LF	1, 2
All window openings and door openings	Adjacent Brick (2 courses of Brick or 16 inches)	3,600 SF	1, 2

BASE BID – PRESUMED PCB REMEDIATION WASTE

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY
Exterior	Containment, PPE, Cleaning Materials & Supplies, & Waste Generated During Removal of PCB Bulk Product Waste	(2) 55-Gallon Drums

Waste Disposal Notes:

1. The abatement contractor is responsible for the proper disposal of waste generated as part of this project and shall provide all needed 55-gallon drums for disposal of presumed PCB containing caulking, glazing compounds, and adjacent materials (two courses of Brick or up to 16 inches) (PCBs \geq 50 ppm) and (1) one 55-gallon drums for disposal of presumed
 2. Polyethylene Sheeting, PPE, Cleaning Materials & Supplies, & Other Waste Generated during Removal of Presumed PCB Waste shall be disposed as PCB remediation waste.
- B. Safety Data Sheets (SDS) for chemicals to be used during the project must be submitted to the Consultant prior to Site delivery.
- C. The Contractor shall be responsible for providing temporary water, power, and heat as needed at the Site. Temporary lighting within the work areas must be connected to Ground Fault Circuit Interrupter (GFCI) power panels, installed by a State of Connecticut-licensed electrician, permitted as required, and located outside of the work area.

1.8 DEFINITIONS

- A. The following definitions relative to PCB abatement shall apply:
1. Abatement - Procedures to control PCB release from PCB Bulk Product Waste and PCB Remediation Waste; includes removal, encapsulation, and enclosure.
 2. Air Monitoring - The process of measuring PCB concentrations of an area or exposure of a person.
 3. CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act (Title 42 CFR, Parts 9601-9657).
 4. Chemical Waste Landfill - A landfill at which protection against risk of injury to health or the environment from migration of PCBs to land, water, or the atmosphere is provided from PCBs and PCB Items deposited therein by locating, engineering, and operating the landfill as specified in EPA Title 40 CFR, Part 761.75.
 5. Cleanup Site - The areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of a cleanup of PCB Remediation Waste, regardless of whether the Site was intended for management of waste.
 6. Competent Person - As defined by OSHA, a representative of the Contractor who is capable of identifying existing PCBs hazards in the workplace and selecting the appropriate control strategy for PCB exposure. Person who has authority to take prompt corrective measures to eliminate such hazards during PCB removal.
 7. Consultant - Fuss & O'Neill, Inc.
 8. Containment - An enclosure within the building which establishes a contaminated area and surrounds the location where PCB and/or other toxic or hazardous substance removal is performed and establishes a Control Work Area.
 9. Designated Facility - An off-site disposer or commercial storer of PCB-containing waste designated on the manifest as the facility that will receive a manifested shipment of PCB containing waste.

10. Disposal - An intentional or accidental act of discarding, throwing away, completing, or terminating the useful life of PCBs and PCB-containing items. Disposal includes spills, leaks, and other uncontrolled discharges of PCBs, as well as actions related to containing, transporting, destroying, degrading, decontaminating, or confining PCBs and PCB items.
11. DOT - The United States Department of Transportation.
12. EPA Identification Number - The 12-digit number assigned to a facility by EPA upon notification of PCB waste activity under EPA Title 40 CFR, Part 761.205.
13. Fixed Object - Mechanical equipment, electrical equipment, fire detection systems, alarms, or all other fixed equipment, fixtures, or items which cannot be removed from the work area.
14. Generator of PCB Waste - Any person who acts, processes, or produces PCBs that are regulated for disposal under EPA Title 40 CFR, Part 761, Subpart D, whose act first causes PCBs or PCB-containing items to become subject to the disposal requirements of EPA Title 40 CFR, Part 761, Subpart D, or who has physical control over the PCBs when a decision is made that the use of the PCBs has been terminated, and is therefore subject to the disposal requirements of EPA Title 40 CFR, Part 761, Subpart D. Unless another provision of EPA Title 40 CFR, Part 761 specifically requires a site-specific meaning, "generator of PCB waste" includes all of the sites of PCB waste generation owned or operated by the person who generates PCB waste.
15. GFCI - Ground Fault Circuit Interrupter
16. HEPA - High Efficiency Particulate Air
17. HEPA Filter - Filter in compliance with ANSI Z9.2 1979.
18. HEPA Vacuum Equipment - Vacuum equipment equipped with a HEPA filter system for filtering the air effluent.
19. Laboratory - A facility that analyzes samples for PCBs and is unaffiliated with any entity whose activities involve PCBs.
20. Large PCB Mark (M_L) - Mark that includes letters and striping on a white or yellow background and shall be sufficiently durable to equal or exceed the life (including storage for disposal) of the PCB Article, PCB Equipment, or PCB Container. The size of the mark shall be at least six inches (6") on each side. If the PCB Article or PCB Equipment is too small to accommodate this size, the mark may be reduced in size proportionately down to a minimum of two inches on each side.
21. Manifest - The shipping document EPA form 8700-22 and any continuation sheet attached to EPA form 8700-22, originated and signed by the generator of PCB-containing waste.
22. Mark - The descriptive name, instructions, cautions, or other information applied to PCBs, and PCB Items, or other objects.
23. Marked - The marking of PCB Items and PCB storage areas and transport vehicles by means of applying a legible mark by painting, fixation of an adhesive label, or by any other method that meets the requirements of the EPA Title 40 CFR, Part 761.
24. Movable Object - Unit of equipment or furniture in the work area that can be removed from the work area.
25. 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.
26. On-Site - Within the boundaries of a contiguous property unit.
 27. Owner – City of Meriden: An employee or executive who has the principal responsibility for a process, program, or project.
 28. PCB(s) - A chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of substances that contain such substance. Refer to EPA Title 40 CFR, Part 761.1(b) for applicable concentrations of PCBs. PCB and PCBs as contained in PCB items are defined in EPA Title 40 CFR, Part 761.3.
 29. PCB Article - A manufactured article, other than a PCB Article Container, that contains PCBs and whose surface(s) has been in direct contact with PCBs. Includes capacitors, transformers, electric motors, pumps, pipes, and other manufactured item which (1) is formed to a specific shape or design during manufacture, (2) has end use function(s) dependent in whole or in part upon its shape or design during end use, and (3) has either no change of chemical composition during its end use, or only those changes of composition that have no commercial purpose separate from that of the PCB Article.
 30. PCB Article Container - A package, can, bottle, bag, barrel, drum, tank, or other device used to contain PCB Articles or PCB Equipment, and whose surface(s) has not been in direct contact with PCBs.
 31. PCB Bulk Product Waste - A waste derived from manufactured products containing PCBs in a non-liquid state, at any concentration where the concentration at the time of designation for disposal is greater than (\geq) 50 ppm PCBs. Does not include PCBs or PCB Items regulated for disposal under EPA Title 40 CFR Parts 761.60(a)-(c), 761.61, 761.63, or 761.64. PCB Bulk Product Waste is further defined in EPA Title 40 CFR, Part 761.3.
 32. PCB Item - A PCB Article, PCB Article Container, PCB Container, PCB Equipment, or anything that deliberately or unintentionally contains, or has as a part of it any PCB or PCBs.
 33. PCB Remediation Waste - Waste containing PCBs in concentrations greater than 1 ppm as a result of a spill, release, or other unauthorized disposal.
 34. PCB Waste(s) - PCBs and PCB Items that are subject to the disposal requirements of EPA Title 40 CFR, Part 761, Subpart D.
 35. RCRA - The Resource Conservation and Recovery Act (EPA Title 40 CFR, Parts 260 - 265).
 36. Regulated Work Area - An area established by the employer to demarcate where PCB abatement is conducted and any adjoining area where debris, and waste from such abatement work accumulate.
 37. Storage for Disposal - Temporary storage area for PCBs that have been designated for disposal.
 38. Totally Enclosed Manner - A manner that will ensure no exposure of human beings or the environment to a concentration of PCBs.
 39. Transfer Facility - A transportation-related facility including loading docks, parking areas, and other similar areas where shipments of PCB waste are held during normal transportation. Transport vehicles are not transfer facilities under this definition, unless they are used for the storage of PCB waste, rather than for actual transport

activities. Storage areas for PCB waste at transfer facilities are subject to the storage facility standards of EPA Title 40 CFR, Part 761.65, but such storage areas are exempt from the approval requirements of EPA Title 40 CFR, Part 761.65(d) and the recordkeeping requirements of EPA Title 40 CFR, Part 761.180, unless the same PCB waste is stored there for a period of more than 10 consecutive days between destinations.

40. Transporter of PCB Waste - For the purposes of Title 40 CFR, Part 761, Subpart K, any person engaged in the transportation of regulated PCB waste by air, rail, highway, or water for purposes other than consolidation by a generator.
41. 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.
42. TSCA - The Toxic Substances Control Act (15 U.S.C. 2601 et seq.).

1.9 SUBMITTALS

- A. The Contractor shall submit the following to the Consultant in one complete package prior to the pre-construction meeting, and no later than 10 business days prior to the anticipated start of the Work:

1. Site-Specific Health and Safety Plan (HASP): The Contractor shall prepare a site-specific HASP plan for protection of workers and control of the work site in accordance with OSHA regulatory requirements (Title 29 CFR, Part 1910.120). The HASP shall govern all work conducted at the site during the removal of PCB-Containing Materials and related debris, waste handling, sampling, waste management, and waste transportation. At a minimum, the HASP shall address the requirements set forth in OSHA Title 29 CFR, Part 1910.120, as further outlined below:
 - a. Health and Safety Organization
 - b. Site Description and Hazard Assessment
 - c. Training
 - d. Medical Surveillance
 - e. Work Areas
 - f. Personal Protective Equipment
 - g. Personal Hygiene and Decontamination
 - h. Standard Operating Procedures and Engineering Controls
 - i. Emergency Equipment and First Aid Provisions
 - j. Equipment Decontamination
 - k. Air Monitoring
 - l. Telephone List
 - m. Emergency Response and Evacuation Procedures and Routes
 - n. Site Control
 - o. Heat and Cold Stress
 - p. Recordkeeping
 - q. Community Protection Plan
2. Employee Training, Medical, and Fit Test Documentation: The Contractor submit the following documentation:

- a. Documentation of Training for all employees and Sub-contractors to be used for the removal work.
 - b. Medical clearance and respirator fit test records of each employee who may be on the project site.
 3. PCB and/or other Toxic or Hazardous Substances Disposal Plan (Abatement Contractor Responsibility):
A written plan that details the Contractor's plan for transportation and disposal of PCB-Containing Materials, or other Toxic or Hazardous Substance wastes generated during the project. The Disposal Plan shall identify:
 - a. The Contractor's insurance certificate and landfill's operating permits and insurance certificates.
 - b. Waste packaging, labeling, placarding, and manifesting procedures.
 - c. The name, address, and 24-hour contact number for the proposed treatment or disposal facility, or facilities to which waste generated during the project will be transported.
 - d. The name, address, contact person(s) and state-specific permit numbers for proposed waste transporters, and EPA and DOT identification number for firms that will transport PCB-Containing Material waste.
 - e. The license plate numbers of vehicles to be used in transporting of the waste from the Site to the disposal facility.
 - f. The route(s) by which the waste will be transported to the designated disposal facility, and states or territories through which the waste will pass.
 4. Air Sampling Professional Qualifications: The qualifications of the air sampling professional that the Contractor proposed to use for this project to perform OSHA required employee exposure monitoring.
- B. The following documents shall be submitted to the Consultant within 15 working days following removal of waste from the Site (Abatement Contractor Responsibility):
1. Waste Profile Sheets
 2. Pre-Disposal Analysis Test Results (if required by disposal facility)
 3. Waste Manifests signed by the disposal facility
 4. Tipping Receipts provided by the disposal facility
 5. Certification of Final Treatment/Disposal signed by the responsible disposal facility official.
- C. The following shall be submitted to the Consultant at the completion of the Work (Abatement Contractor Responsibility):
1. Disposal Site Receipts: Copy of waste shipment record(s) and disposal site receipt(s) that indicate that PCB-Containing Materials or other Toxic, or Hazardous Substances materials have been properly disposed.

1.10 REGULATIONS AND STANDARDS

- A. The Contractor shall be solely responsible for conducting this project and supervising all work in a manner that will be in conformance with all federal, state, and local regulations

and guidelines pertaining to presumed PCB Bulk Product impacted by work. Specifically, the Contractor shall comply with the requirements of the following:

1. EPA TSCA (Title 40 CFR, Part 761);
2. OSHA Hazardous Waste Operations and Emergency Response Regulations (Title 29 CFR, Parts 1910.120);
3. OSHA Respiratory Protection Standard (Title 29 CFR, Part 1910.134);
4. OSHA Hazard Communication (Title 29 CFR, Part 1910.1200);
5. Department of Transportation (DOT) Hazardous Waste Transportation Regulations (Title 49 CFR, Parts 170 – 180);
6. CTDEEP Regulations;
7. 2003 International Building Code as adopted by the 2005 State of Connecticut Building Code including the 2009, 2011, 2013, 2016, and 2018 amendments;
8. Life Safety Code (National Fire Protection Association [NFPA]);
9. Local health and safety codes, ordinances or regulations pertaining to PCB remediation and all national codes and standards including American Society for Testing Materials (ASTM), American National Standards Institute (ANSI), and Underwriter's Laboratories (UL).

1.11 POSTING AND RECORD MAINTENANCE REQUIREMENTS

- A. The following items shall be conspicuously displayed proximate but outside of the regulated work areas.

1. Warning Signs: Warning signs shall be in English and the language of any workers on-site who do not speak English, and be of sufficient size to be clearly legible and display the following or similar language in accordance with OSHA 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

In addition, all entrances to work areas shall be posted with a PCB M_L large marker.

- B. The Contractor shall maintain the following items on-site and available for review by all employees and authorized visitors:

1. Documentation of Training, Medical Clearance, and Fit Test Records for all employees and the project Supervisor.
2. SDS for all chemicals used during the project.
3. Copies of Contractor's written hazard communication and respiratory protection programs.

1.12 MINIMUM REQUIREMENTS FOR WORKER HEALTH AND SAFETY

- A. The Contractor is responsible and liable for the health and safety of all on-site personnel and the off-site community affected by the Work. All on-site workers or other persons entering the regulated work areas shall be knowledgeable of and comply with all applicable federal, state, and local regulations protecting human health and the environment from the hazards posed by the Work.
- B. In addition to exposure concerns relating to the presence of PCBs, other health and safety considerations will apply to the Work. The Contractor shall be responsible for recognizing such hazards and shall be responsible for the health and safety of the Contractor's employees at all times. It is the Contractor's responsibility to comply with all applicable health and safety regulations.

1.13 WORK AREA IDENTIFICATION

- A. The Contractor shall lay-out and clearly identify regulated work areas at the Site. Access by equipment, site personnel, and the public to the work areas shall be limited as follows:

1.14 PERSONNEL PROTECTIVE EQUIPMENT (PPE)

- A. The Contractor shall be responsible to determine and to provide the appropriate level of PPE in accordance with applicable regulations and standards necessary to protect the Contractor's employees from all hazards present.
- B. The Contractor shall provide all employees with the appropriate safety equipment and protective clothing to ensure an appropriate level of protection for each task, taking into consideration the chemical, physical, ergonomic, and biological hazards posed by the Site and Work.
- C. The PPE to be utilized for the project shall be selected based upon the potential hazards associated with the Site and the Work. Appropriate PPE shall be worn at all times within the regulated work area.
- D. The Contractor shall provide the appropriate level of respiratory protection to all field personnel engaged in activities where respiratory hazards exist, or where there is a potential for such hazard to exit.
- E. The Contractor shall provide, as necessary, protective coveralls, disposable gloves and other protective clothing for all personnel that will be actively involved in abatement activities or waste handling activities, or otherwise present in the regulated work area. Coveralls shall be Tyvek™ or equivalent material. Should the potential for exposure to liquids exist, splash resistant disposable suits shall be provided and utilized.
- F. Protective coveralls, and other protective clothing shall be donned and removed outside of the regulated work area and shall be disposed at the end of each day. Ripped coveralls shall be immediately replaced after appropriate decontamination has been completed to the

satisfaction of the Contractor Site Supervisor. Protective clothing shall not be worn outside of the regulated work area.

- G. Hard hats, protective eyewear, rubber boots, and/or other non-skid footwear shall be provided by the Contractor as required for workers and authorized visitors.
- H. All contaminated protective clothing, respirator cartridges, disposable protective items HEPA filters, vacuum bags/collection devices, etc. shall be placed into proper containers provided by the Abatement Contractor for transport and proper disposal in accordance with EPA regulations as presumed PCB Remediation Waste.

1.15 EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

- A. At a minimum, the Contractor shall provide and maintain at the Site the following Emergency and First Aid Equipment:
 - 1. Fire Extinguishers: At a minimum, one fire extinguisher shall be supplied and maintained at the Site by the Contractor throughout the duration of the Work. Each extinguisher shall be a minimum of a 20-pound Class ABC dry fire extinguisher with Underwriters Laboratory approval per OSHA Title 29 CFR, Part 1910.157.
 - 2. First Aid Kit: At a minimum, one first aid kit meeting the requirements of OSHA Title 29 CFR, Part 1910.151 shall be supplied and maintained at the Site by the Contractor throughout the duration of the Work.
 - 3. Communications: Telephone communications (either cellular or land line) shall be provided by the Contractor for use by site personnel at all times during the Work.
- B. The Contractor Site Supervisor shall be notified immediately in the event of personal injury, potential exposure to contaminants, or other emergency. The Contractor Site Supervisor shall then immediately notify the Owner and Consultant.

1.16 STANDARD SAFETY AND HEALTH PROCEDURES AND ENGINEERING CONTROLS

- A. The following provisions shall be employed to promote overall safety, personnel hygiene, and personnel decontamination:
 - 1. Each Contractor or Subcontractor shall ensure that all safety equipment and protective clothing to be utilized by its personnel is maintained in a clean and readily accessible manner at the Site.
 - 2. All prescription eyeglasses in use on this project shall be safety glasses conforming to ANSI Standard Z87.1. No contact lenses shall be allowed on the Site.
 - 3. Prior to exiting the regulated work area(s), all personnel shall remove protective clothing, and place disposable items in appropriate disposal containers to be dedicated to that purpose. Following removal of PPE, personnel shall thoroughly wash and rinse their face, hands, arms, and other exposed areas with soap and tap water wash and subsequent tap water rinse. A fresh supply of tap water shall be provided at the Site on each work day by the Contractor for this purpose.

4. All PPE used on-site shall be decontaminated or disposed at the end of each work day. Discarded PPE shall be placed in sealed DOT-approved 55-gallon drums for off-site disposal provided by the Abatement Contractor.
 5. Respirators shall be dedicated to each employee, and not interchanged between workers without cleaning and sanitizing.
 6. Eating, drinking, chewing gum or tobacco, smoking, and any other practice that increases the likelihood of hand to mouth contact shall be prohibited within the delineated abatement and decontamination work zones. Prior to performing these activities, each employee shall thoroughly cleanse their face, hands, arms, and other exposed areas.
 7. All personnel shall thoroughly cleanse their face hands, arms, and other exposed areas prior to using toilet facilities.
 8. No alcohol, illicit drugs, or firearms will be allowed on the Site at any time.
 9. Contact with potentially contaminated surfaces should be avoided, if possible. Field personnel should minimize walking through standing water/puddles, mud, or other wet or discolored surfaces, kneeling on the ground, and placing equipment, materials, or food on the ground, or other potentially contaminated surface.
- B. Workers must wear protective suits, protective gloves, and eye protection. Respiratory protection shall be in accordance with OSHA Title 29 CFR, Part 1910.134, and ANSI Z88.2.
1. Workers must be trained per OSHA requirements, have medical clearance, and must have recently received pulmonary function test (PFT) and respirator fit test by a trained professional.
 2. A personal air sampling program shall be in place, as required by OSHA.
 3. The use of respirators must also follow a complete written respiratory protection program as specified by OSHA.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with PCBs shall be decontaminated or disposed as PCB waste.
- B. Polyethylene (poly) sheeting in a roll size to minimize the frequency of joints shall be delivered to the Site with factory label indicating 4 or 6-mil thickness.
- C. Poly disposable bags shall be 6-mil thickness with pertinent pre-printed label. Tie wraps for bags shall be plastic, five-inches long (minimum), pointed and looped to secure filled plastic bags.

- D. Tape or adhesive spray will be capable of sealing joints in adjacent poly and for attachment of poly to finished or unfinished surfaces of dissimilar materials, and capable of adhering under both dry and wet conditions, including use of cleaning products.
- E. The Contractor shall have available spray equipment capable of mixing wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with PCBs.

2.2 TOOLS AND EQUIPMENT

- A. The Contractor shall provide all tools and equipment necessary for PCB removal.
- B. The Contractor's air monitoring professional shall have air monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements. The Contractor shall have available sufficient inventory or dated purchase orders for materials necessary for the Work including protective clothing, respirators, filter cartridges, poly of proper size and thickness, tape, and air filters.
- C. The Contractor shall provide (as needed) temporary electrical power panels, electrical power cables, and electrical power sources (such as generators). Any electrical connection work affecting the building electrical power system shall be performed by a State of Connecticut-licensed electrician.
- D. Vacuum units, of suitable size and capacities for the project, shall have HEPA filter(s) capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter or larger.

PART 3 - EXECUTION

3.1 WORK AREA PROTECTION – REGULATED AREA

- A. Where necessary, deactivate 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 State of Connecticut-licensed electrician, permitted as required, and located outside the work area.
- B. Post warning signs in accordance with OSHA Title 29 CFR, Part 1910.1200 at all approaches to the regulated work area(s). Signs shall be conspicuously posted to permit a person to read signs and take precautionary measures to avoid exposure to PCBs or other Toxic or Hazardous Substances. These signs should include the large PCB M_L markers at each entrance to the work area.
- C. Waste Containers for PCB Bulk Product Waste and PCB Remediation Waste shall be located on-site and shall be placed adjacent to the regulated area. Containers shall be lined, covered, and secured. The PCB waste containers shall be properly marked as described in EPA Title 40 CFR, Part 761.40. Marking shall include a PCB M_L marker formatted in accordance with EPA Title 40 CFR, Part 761.45.

3.2 DECONTAMINATION SYSTEM

- A. The Contractor shall establish an on-site wash facility as near as possible to the regulated work area(s). If a wash facility is not present at the Site, A portable facility will be made available by the Contractor. Hands, face, and all other potentially contaminated areas of the skin will be thoroughly cleaned prior to smoking, eating, or leaving the site.
- B. All equipment which is potentially contaminated is decontaminated prior to leaving the regulated work area. Equipment decontamination procedures will consist of the following:
 - 1. Physically remove packed dirt and debris with a stiff bristle brush and with tap water and hexane or equivalent
 - 2. Tap water rinse
 - 3. Second tap water and hexane or equivalent wash
 - 4. Second tap water rinse
 - 5. Allow to air dry.

Note: Most electronic monitoring equipment can be wrapped in plastic to eliminate the need for extensive decontamination protocols which could harm the electronics.

3.3 PRESUMED PCB BULK PRODUCT WASTE REMOVAL PROCEDURES

- A. The Contractor shall have a designated "competent person" on the Site at all times to ensure proper work practices throughout the project.
- B. The Contractor shall regulate the work area as required for compliance with OSHA Title 29 CFR, Part 1910.1200 to prohibit non-trained workers from entering areas where PCBs are to be removed.
- C. The Contractor shall establish a wash facility adjacent the work area.
- D. Materials shall be removed or impacted in a manner which does not breakdown the materials into fine dust or powder to the extent feasible. Equipment and tools to be utilized shall include hand tools and mechanical equipment such as coring drills, mechanical grinders, etc. to remove materials from adjacent substrates. Mechanical removal equipment shall as appropriate be fitted with HEPA filtered vacuum attachments.
- E. The use of minimal quantities of water to moisten the generated dust prior to collection shall be utilized. Under no circumstances shall the presumed PCB waste show evidence of free liquid water, pooling, or ponding within the waste stream. Any liquid used to wet the dust and debris to control fugitive emissions shall be properly containerized and decontaminated in accordance with EPA Title 40 CFR, Part 761.79(b)(1) or disposed in accordance with EPA Title 40 CFR, Part 761.60(a).
- F. Dry or brittle presumed PCB-Containing Material shall be removed with additional engineering controls such as use of a HEPA filtered vacuum to remove accumulated dust or debris during removal.

G. Sequence of removal shall follow the following general requirements:

1. Site preparation and controls to facilitate impacts to presumed PCB Bulk Product Waste including establishing a regulated area, preparing polyethylene sheeting drop cloths and the use of engineering controls such as tools and equipment equipped with HEPA filtration. These procedures must be utilized for PCB Waste removal.
2. Health and Safety in accordance with OSHA requirements.
3. Remove and containerize all visible accumulations of presumed PCB Bulk Product Waste. Waste shall be containerized in labeled and signed 6-mil poly disposable bags. Tie wraps for bags shall be plastic, 5-inches long (minimum), pointed and looped to secure filled plastic bags. Disposal bags shall then be placed in steel 55-gallon DOT-approved drums to be provided by the Abatement Contractor. Packaging and movement of the presumed PCB Bulk Product Waste and PCB Remediation Waste Storage area for PCB waste is the responsibility of the Contractor.
4. Transportation, and disposal of presumed PCB Bulk Product Waste at a facility permitted to accept PCB Bulk Product Waste and shall be the responsibility of the Abatement Contractor.
5. Transportation, and disposal of containment, personal protection equipment (PPE), cleaning materials and supplies, and waste generated during removal of PCB Bulk Product Waste as PCB Remediation Waste at a facility permitted to accept PCB Remediation Waste and shall be the responsibility of the Abatement Contractor.
6. Following complete removal of PCB Bulk Product Waste and PCB Remediation Waste, the regulated work area shall be left clean with no remaining debris.
7. Recordkeeping and distribution as required in accordance with EPA Title 40 CFR, Part 761.125 (c) (5).

H. At any time during impacts to presumed PCB-containing materials should the Consultant suspect contamination of areas outside the regulated work area, the Consultant shall issue a stop work order until the Contractor takes required steps to decontaminate these areas, and to eliminate the causes of such contamination. Unprotected individuals shall be prohibited from entering suspected contaminated areas until air sampling and visual inspections indicate acceptable decontamination.

I. If requested by the Owner, the Consultant shall conduct a final visual inspection of the work area. If residual suspect presumed PCB-containing debris is identified during the final inspection, the Contractor shall comply with the Consultant's request to render the area clean of all residual PCB.

3.4 CLEANING AND DECONTAMINATION

- A. The Contractor shall be responsible for complete cleaning and decontamination of the regulated work area upon completion of work. The regulated work area will be required to meet proposed final visual inspection requirements.
- B. The Contractor shall utilize HEPA filtered vacuum equipment and wet cleaning products to remove all visible dust and debris from all surfaces within the work area. If specialty cleaning products are utilized, the Contractor shall utilize the product(s) in accordance with

manufacturer's specifications including any additional safety and disposal requirements for such use. The Contractor shall assure proper ventilation and engineering controls to prevent an odor or volatile organic compound (VOC) issue in the building when using specialty cleaning products.

- C. Any liquid used to wet the dust and debris to control fugitive emissions shall be collected and decontaminated in accordance with EPA Title 40 CFR, Part 761.79(b)(1), or disposed in accordance with EPA Title 40 CFR, Part 761.60(a).
- D. All rags and other cleaning materials used to clean the work area shall be properly disposed as presumed PCB Remediation Waste. All presumed PCB Remediation Waste shall be stored for disposal in accordance with EPA Title 40 CFR, Part 761.61(a)(5)(v)(A). All waste containers shall be appropriately marked and labeled in accordance with EPA Title 40 CFR, Parts 761.40 and 761.45. Waste disposal is the responsibility of the Abatement Contractor.
- E. Equipment to be utilized in connection with the removal of PCB Bulk Product Waste including waste collection, or that will or may come in direct contact with the Site contaminants shall be decontaminated prior to leaving the Site to prevent migration of the potential contaminated residues. Decontamination shall be in accordance with EPA Title 40 CFR, Part 761.79, and Subpart S procedures.
- F. All non-disposable equipment and tools employed in the Work will be decontaminated at the conclusion of each work day utilizing the following sequence:
 - 1. Initial tap water rinse to remove gross debris
 - 2. Tap water and hexane or equivalent wash
 - 3. Tap water rinse
 - 4. Second tap water and hexane or equivalent wash
 - 5. Second tap water rinse
- G. The wash water and decontamination liquids shall be captured and containerized in DOT approved 55-gallon drums for off-site disposal in accordance with EPA Title 40 CFR, Part 761.60(a). Waste disposal is the responsibility of the Abatement Contractor.

3.5 CONSULTANT'S RESPONSIBILITIES

- A. Consultant may conduct inspections throughout the progress of the removal project. Inspections may be conducted to document the progress of the removal work, as well as the procedures and practices employed by the Contractor.
- B. The Consultant's project monitor shall provide continual evaluation of the condition of the building during removal, using their best professional judgments in respect to EPA and CTDEEP regulations.

3.6 CONSULTANT'S INSPECTION RESPONSIBILITIES

- A. Consultant may conduct inspections throughout the progress of the removal project. Inspections may be conducted to document the progress of the removal work, as well as the procedures and practices employed by the Contractor.
- B. The Consultant may perform the following inspections during abatement activities:
 - 1. Pre-commencement Inspection. If requested by the Owner, Pre-commencement inspections shall be performed by the Consultant. The Consultant shall be informed 12-hours prior to the time the inspection is needed. If deficiencies are identified during the pre-commencement inspection, the Contractor shall perform the necessary adjustments to obtain compliance.
 - 2. Work Area Inspection. If requested by the Owner, Work area inspections may be conducted on a daily basis at the discretion of the Consultant. During the work inspections, the Consultant shall observe the Contractor's removal procedures, verify isolation barrier integrity, assess project progress, and inform the Contractor of specific remedial activities if deficiencies are noted.
- C. The Consultant shall perform the following inspection during abatement activities:
 - 1. Final Visual Inspection. If requested by the Owner, the Consultant shall conduct a final visual inspection of the work area. The final visual inspection shall be conducted after completion of the final cleaning procedures. The final visual inspection shall verify that all PCB Waste(s) have been removed from the work area. If during the inspection the Consultant identifies residual dust or debris, the Contractor shall comply with the request of the Consultant to render the area "dust free"
 - 2. CONSULTANT'S VERIFICATION SAMPLING
 - 3. A. The Consultant shall perform post-cleaning verification and post-remediation verification sampling as necessary to determine complete removal of PCB's. Refer to the Performance Based Clean-Up and Disposal Plan for requirements for determination of clearance levels.
 - 4. Once post-cleaning and post-verification sampling has documented the Abatement Zone meets required criteria established in the Performance Based Clean-Up and Disposal Plan, the Contractor shall be permitted to remove decontamination unit, isolation barriers, negative pressure units, etc. These areas shall be subjected to a visual inspection to ensure no visible dust is present.

3.7 MARKING OF WASTE CONTAINERS (ABATEMENT CONTRACTOR RESPONSIBILITY)

- A. All waste containers must be marked with the name of the waste contained, the date in 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_L marker.

- B. All waste containers containing PCB Bulk Product Waste, and PCB Remediation Waste in the form of waste and contaminated debris, containment system components, used PPE, personal and equipment wash water and decontamination fluids, or other wastes generated during the abatement work shall 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 ML marker. 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.

3.8 ON-SITE WASTE MANAGEMENT AND DISPOSAL OF SOLID HAZARDOUS WASTES (ABATEMENT CONTRACTOR RESPONSIBILITY)

- A. The materials as identified in Presumed Polychlorinated Biphenyls Removal and Disposal Section 02 84 34, 1.7 Project Description were presumed to contain PCBs and were classified as PCB Bulk Product Waste. Due to the material being presumed, TCLP analysis is necessary to satisfy landfill requirements for waste characterization. The Owner's Consultant shall collect waste characterization samples for TCLP PCB analysis of the presumed PCB Bulk Product Material and PCB Remediation Waste which is anticipated to be required by the disposal site the Contractor identifies. The Contractor shall factor in time for TCLP testing, TCLP analysis and staging of waste as necessary to complete the waste profile and subsequent landfill facility acceptance of waste.
- B. All solid waste material, containment system components, used PPE, and other solid wastes generated during the Work, shall 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.

- C. The Contractor shall be 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.
- D. The Contractor shall ensure that the person transporting the waste holds a valid permit issued in accordance with appropriate federal, state, and local regulations.
- E. The Contractor shall 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 Consultant.
- F. The Contractor shall 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.
- G. The Contractor shall assure that disposal of PCB Bulk Product Waste and PCB Remediation Waste at a facility approved to accept such waste(s) and shall provide a tracking/manifest form signed by the landfill's authorized representative.
- H. The impermeable cover shall remain securely in place at all times when material is not being actively placed in the vessels. The Contractor shall be responsible for ensuring that the cover remains securely intact until the container is removed from the Site.
- I. If 55-gallon drums are to be utilized for waste containerization, the drums shall consist of suitable DOT approved 55-gallon drums that are watertight and free of corrosion, perforations, punctures, or other damage. All drums shall be securely covered and sealed at the conclusion of each work day.
- J. The waste containers shall 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.
- K. Drum staging area shall be designated prior to initiation of the abatement work and approved by the Consultant. If this area is located outside of the building, the area (or areas) shall be surrounded by a chain-link fence with a minimum height of six feet. The fence shall be labeled with a PCB M_L marker.
- L. Properly containerized waste must be transported by a licensed hauler and shipped as PCB Bulk Product Waste for disposal at a permitted waste facility in accordance with EPA Title 40 CFR, Part 761.62(b).
- M. PCB Remediation Waste and PCB Bulk Product Waste must be transported by a licensed hauler and shipped as PCB Remediation or PCB Bulk Product Waste for disposal in accordance with EPA Title 40 CFR, Part 761.61(b) at one of the following facilities:
 - 1. A hazardous waste landfill permitted by EPA under Section 3004 of EPA RCRA,
 - 2. A State authorized landfill under Section 3006 of EPA RCRA, or
 - 3. A chemical waste landfill approved under EPA Title 40 CFR, Part 761.75.

- N. Provide required copies of the uniform waste manifests for PCB Remediation Waste to the Owner, waste generation State, and waste destination State, as required. The Consultant shall review the waste manifest to assure the proper information has been supplied prior to waste shipment, which includes, but is not limited to, Site address, generator information, waste description, waste profile, quantity, etc.
- O. Any PCB liquid water waste shall be properly containerized and decontaminated in accordance with EPA Title 40 CFR, Part 761.79 (b)(1), or disposed in accordance with EPA Title 40 CFR, Part 761.60(a).
- P. Any chemicals, solvents or other products used during decontamination shall be properly containerized as PCB liquid waste. Waste must be properly decontaminated in accordance with EPA Title 40 CFR, Part 761.79 (b) (1), or disposed in accordance with EPA Title 40 CFR, Part 761.60(g).
- Q. All contaminated waste shall be carefully loaded on trucks or other appropriate vehicles for transport. Before and during transport, care shall be exercised to insure that no unauthorized persons have access to the waste materials.
- R. Waste transporters are prohibited from "back hauling" any freight after the PCB waste disposal, until decontamination of the vehicle and/or trailer is assured.

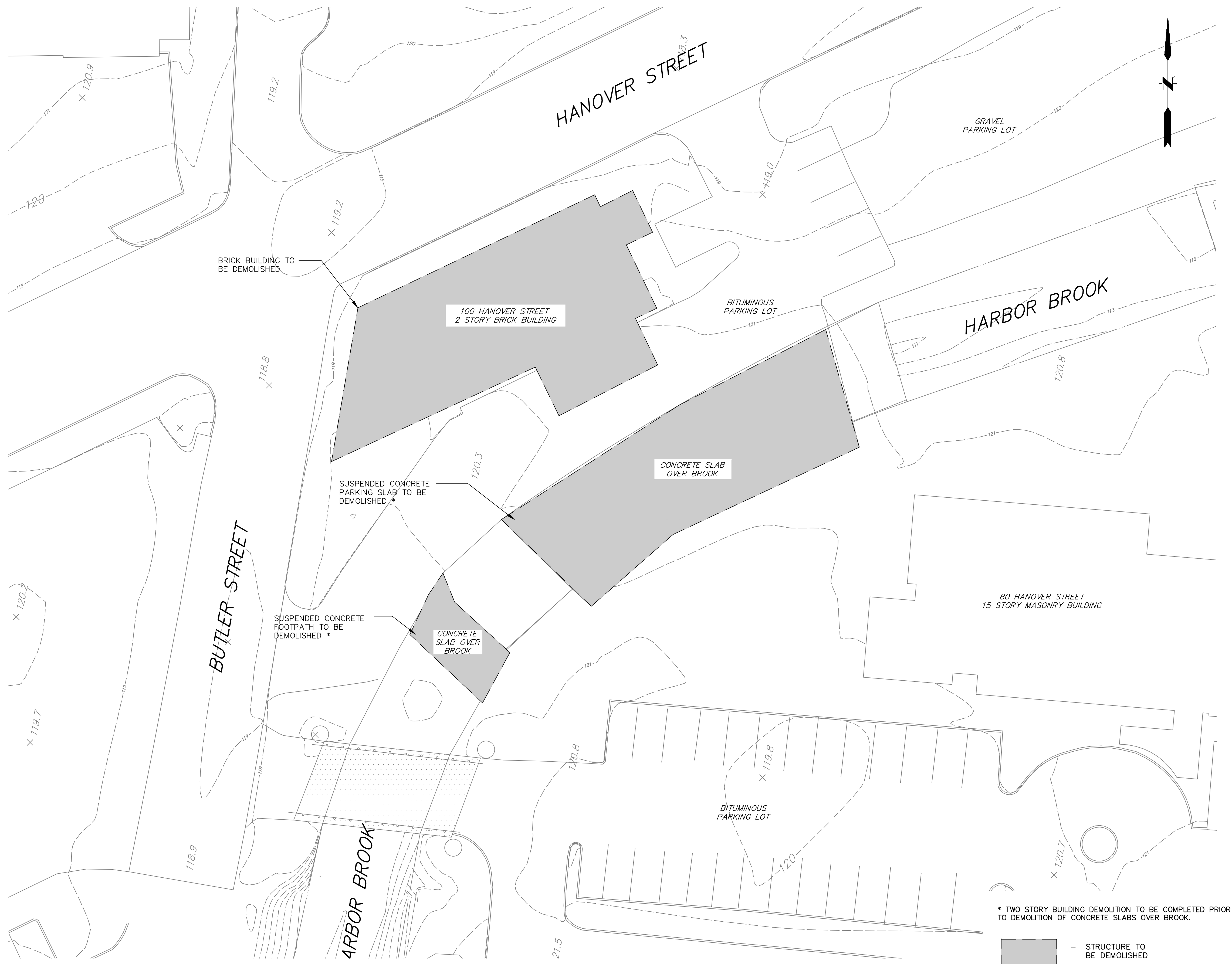
END OF SECTION 02 84 34

BUILDING DEMOLITION DRAWING SD-100

1. PROPOSED WORK WILL INCLUDE REMOVAL OF BUILDING AND FOUNDATION ELEMENTS INDICATED. ALL UTILITIES ENTERING THE BUILDINGS WILL BE CUT & CAPPED IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS, FILLED WITH NON-SHRINK GROUT OR CONTROLLED LOW STRENGTH MATERIAL OR PVC COVER IN ACCORDANCE WITH UTILITY OWNER'S REQUIREMENTS.
2. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE BY CONTRACTOR EVERY OTHER DAY AT A MINIMUM. COORDINATE WASTE REMOVAL WITH OWNER.
3. IF UTILITIES ARE FOUND TO BE SHARED WITH ANOTHER BUILDING, CONTACT THE ENGINEER OF RECORD PRIOR TO DISCONNECT OR DEMOLITION
4. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED TO ALL BUILDINGS AT ALL TIMES DURING DEMOLITION AND SITE RESTORATION.

1. REMOVE ALL VEGETATION WITHIN PROJECT LIMITS EXCEPT THOSE TREES INDICATED TO REMAIN. CUT STUMPS FLUSH WITH ADJACENT GRADE.
2. INSTALL TEMPORARY CONSTRUCTION FENCE PRIOR TO DEMOLITION AND MAINTAIN WHILE DEMOLITION ACTIVITIES ARE OCCURRING. WHERE EXISTING FENCE DOES NOT PROTECT THE PROPERTY'S BOUNDARIES, REPAIR OR REPLACE EXISTING FENCE AS NEEDED.

1. PRIOR TO CARRYING OUT ANY BUILDING DEMOLITION, DETAILED INSPECTION BY MEANS OF SURVEYS AND APPROPRIATE ASSESSMENTS SHALL BE REQUIRED. IN GENERAL, THE SURVEYS SHALL INCLUDE A STRUCTURAL SURVEY WITH PHOTOGRAPHS OR VIDEOS TAKEN FOR FUTURE REFERENCE. BASED ON THE FINDINGS OF THESE SURVEYS, A DEMOLITION PLAN MUST ALSO BE ACCOMPANIED BY A REPORT ASSESSING THE STABILITY OF THE BUILDING TO BE DEMOLISHED AND ALL AFFECTED BUILDINGS, STRUCTURES, STREETS, LAND AND UTILITIES.
2. DEMOLITION PLAN — A DEMOLITION PLAN SHALL INCLUDE THE FOLLOWING:
 - 2.1. A PLAN SHOWING THE LOCATION OF THE BUILDING TO BE DEMOLISHED, DETAILS OF GROUND REMOVAL AND/OR BACKFILLING; AND THE DISTANCES FROM THE BUILDING TO BE DEMOLISHED TO ITS ADJACENT BUILDINGS, STREETS AND STRUCTURES.
 - 2.2. A PLAN SHOWING ALL PRECAUTIONARY MEASURES FOR THE PROTECTION OF THE PUBLIC INCLUDING FENCES, COVERED WALKWAYS, CATCH PLATFORMS, SCAFFOLDING, PROTECTIVE SCREENS AND SAFETY NETS.
 - 2.3. A PLAN SHOWING THE PROPOSED SHORING AND TEMPORARY SUPPORT TO BE PROVIDED TO THE BUILDING TO BE DEMOLISHED.
3. SPRAY BUILDING MATERIALS WITH WATER IMMEDIATELY PRIOR TO BUILDING DEMOLITION. SPRAY DEBRIS PILE AS NECESSARY TO CONTROL DUST GENERATION AND MIGRATION.
4. IMMEDIATELY AFTER FUGITIVE DUST IS OBSERVED, IMPLEMENT ADDITIONAL CONTROL MEASURES INCLUDING WATER SPRAY, CALCIUM CHLORIDE SPRAY, STOCKPILE COVERING, SURFACE SWEEPING, ETC. UNTIL THE DUST IS CONTROLLED.
5. DEMOLITION PROCEDURES AND PRACTICES SHALL BE EXECUTED IN ACCORDANCE WITH OSHA, STANDARD 1926, SUB PART T.
6. NO WALL SECTION, WHICH IS MORE THAN ONE STORY IN HEIGHT, SHALL BE PERMITTED TO STAND ALONE WITHOUT LATERAL BRACING, UNLESS SUCH A WALL WAS ORIGINALLY DESIGNED AND CONSTRUCTED TO STAND WITHOUT SUCH LATERAL SUPPORT AND IS IN A CONDITION SAFE ENOUGH TO BE SELF-SUPPORTING. ALL WALLS SHALL BE LEFT IN A STABLE CONDITION AT THE END OF EACH SHIFT.
7. CONTRACTOR TO PROTECT UTILITIES AND POLES DURING ALL DEMOLITION ACTIVITIES.
8. DEMOLITION SHALL BE BY MECHANICAL OR MANUAL MEANS. THE USE OF EXPLOSIVE DEVICES IS PROHIBITED.
9. BEFORE DEMOLISHING ANY STRUCTURE DEBRIS AND OTHER MATERIAL SHALL BE REMOVED FROM INSIDE THE STRUCTURE AND ADJACENT AREAS
10. BUILDINGS AND FOUNDATION ELEMENTS SHALL BE FULLY REMOVED.
11. BACKFILL WITH SUITABLE FILL IN AREAS WHERE FOUNDATION ELEMENTS ARE REMOVED TO MATCH EXISTING ADJACENT GRADES.
12. CONTRACTOR SHALL PROTECT HARBOR BROOK FROM ALL CONSTRUCTION AND DEMOLITION DEBRIS THROUGHOUT DURATION OF CONSTRUCTION AND DEMOLITION ACTIVITIES.




1 100 HANOVER STREET DEMOLITION PLAN
1/16" = 1'-0"

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SEAL

--	--

SCALE:	HORIZ.: ?" = ??'		
	VERT.:		
DATUM:	HORIZ.:		
	VERT.:		
??	??	0	??
			
GRAPHIC SCALE			



FUSS & O'NEILL
146 HARTFORD ROAD
MANCHESTER, CONNECTICUT 06040
860.646.2469
www.fando.com

CITY OF MERIDEN CONNECTICUT

100 HANOVER STREET BUILDING DEMOLITION

CHANNEL IMPROVEMENTS PROJECT

MERIDEN CONNECTICUT

ROJ. No.: 20170932.C11
DATE: JANUARY 2022

SD-100

ATTACHMENT A

**FUSS & O'NEILL, INC. (FUSS & O'NEILL) LIMITED HAZARDOUS BUILDING
MATERIALS INSPECTION REPORT DATED MARCH 16, 2020, REVISED
DECEMBER 3, 2021**

Limited Hazardous Building Materials Inspection

February 17 & 18, 2020 and October 14 & 21, 2021

100 Hanover Street
Meriden, Connecticut

City of Meriden

Meriden, Connecticut

March 16, 2020

Revised December 3, 2021



FUSS & O'NEILL

Fuss & O'Neill, Inc.

146 Hartford Road
Manchester, CT 06040



FUSS & O'NEILL

March 16, 2020; Revised December 3, 2021

Mr. Brian Ennis, P.E.
Associate City Engineer
City of Meriden
City Hall, Room 210
142 East Main Street
Meriden, CT 06450-8022

Re: Limited Hazardous Building Materials Inspection
100 Hanover Street, Meriden, Connecticut
Fuss & O'Neill Project No. 20170932.C11

Dear Mr. Ennis:

Enclosed is the revised report for the limited hazardous building materials inspection conducted in response to the proposed demolition for 100 Hanover Street in Meriden, Connecticut. The work was conducted for the City of Meriden (the "Client").

The initial inspection was performed on February 17 and 18, 2020 by a Fuss & O'Neill, Inc. licensed inspector and included a limited asbestos-containing material (ACM) inspection, lead-based paint (LBP) determination, an inventory of presumed polychlorinated biphenyl (PCB) containing building materials, and an inventory of PCB-containing ballasts and mercury-containing equipment. The information summarized in this report is for the above-mentioned materials only. The work was performed in accordance with our written proposal dated April 30, 2021.

Supplemental inspections were conducted on October 14 and 21, 2021 and included a limited ACM inspection and an inventory of presumed PCB containing building materials.

If you should have any questions regarding the contents of this report, please do not hesitate to contact me at (860) 646-2469, extension 5570. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Carlos Texidor
Associate

CT/kr

Enclosure

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Manchester, CT
06040

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www.fando.com

California
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Table of Contents

Limited Hazardous Building Materials Inspection Report 100 Hanover Street, Meriden, Connecticut City of Meriden

1	Introduction	1
1.1	Building and Mechanical System Description.....	1
2	Asbestos Inspection.....	1
2.1	Methodology	1
2.2	Results	3
2.3	Discussion	4
2.4	Conclusions and Recommendations.....	4
3	Lead-Based Paint Determination	5
3.1	Methodology	5
3.2	XRF Determination Results.....	6
3.3	Discussion	6
3.4	Conclusion and Recommendations	6
4	Presumed PCB-Containing Source Building Materials Inspection.....	6
4.1	Inspection and Results.....	7
4.2	Conclusions and Recommendations.....	7
5	PCB-Containing Fluorescent Light Ballasts and Mercury-Containing Equipment.....	7
5.1	PCB-Containing Fluorescent Ballasts.....	7
5.2	Mercury-Containing Equipment.....	8

Tables

End of Report

1. Summary of Suspect Asbestos-Containing Materials
2. Summary of Asbestos-Containing Materials and Materials Containing <1% Asbestos Inventory
3. Presumed PCB Containing Materials Inventory
4. PCB/DEHP-Containing Light Ballasts Inventory
5. Mercury-Containing Equipment Inventory

Appendices

End of Report

APPENDIX A	LIMITATIONS
APPENDIX B	INSPECTOR LICENSE AND ACCREDITATION
APPENDIX C	ASBESTOS LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS
APPENDIX D	SITE PHOTOGRAPHS
APPENDIX E	XRF LEAD DETERMINATION FIELD DATA SHEETS
APPENDIX F	DOOR AND WINDOW TYPES

1 Introduction

On February 17 and 18, 2020, Fuss & O'Neill, Inc. (Fuss & O'Neill) representative Kristina Snurkowski performed a limited hazardous building materials inspection for proposed renovations at 100 Hanover Street, Meriden, Connecticut (the "Site"). Supplemental inspections were conducted on October 14 and 21, 2021 to investigate the roof and previously inaccessible areas. The work was conducted for the City of Meriden (the "Client") in accordance with our written proposal dated April 30, 2021, and is subject to the limitations included in *Appendix A*.

The inspection included the following:

- Limited asbestos-containing material (ACM) inspection;
- Lead-based paint (LBP) determination;
- Inventory of presumed polychlorinated biphenyls (PCB) containing materials; and
- PCB-containing light ballasts and mercury-containing equipment inventory.

This hazardous building materials inspection was performed in response to proposed demolition activities and included the interior and exterior of the building.

1.1 Building and Mechanical System Description

The building structure includes two stories with no basement and was reportedly constructed in 1910. The building contains approximately 8,418 square feet (SF) of total floor area. The building is heated by a gas-fired forced hot air boiler system. The building was formerly heated by an oil-fired radiant heating system according to City of Meriden records available through the City building department.

2 Asbestos Inspection

A property Owner must ensure that a thorough ACM inspection is performed prior to possible disturbance of suspect ACM during renovation or demolition activities. This is a requirement of the Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation located at Title 40 CFR, Part 61, Subpart M.

On February 17 and 18, 2020 and October 14 and 21, 2021, Ms. Kristina Snurkowski of Fuss & O'Neill conducted the inspection. Ms. Snurkowski is a State of Connecticut Department of Public Health (CTDPH)-licensed Asbestos Inspector. Refer to *Appendix B* for the Asbestos Inspector license and accreditation.

2.1 Methodology

The limited inspection was conducted by visually inspecting for suspect ACM and touching each of the suspect materials. The suspect materials were categorized into three EPA NESHAP groups: friable and non-friable Category I and Category II type ACM.

- A Friable Material is defined as material that contains greater than 1 percent ($> 1\%$) asbestos that when dry **can** be crumbled, pulverized, or reduced to powder by hand pressure.
- A Category I Non-Friable Material refers to material that contains $> 1\%$ asbestos (i.e., packings, gaskets, resilient floor coverings, and asphalt roofing products) that when dry **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.
- A Category II Non-Friable Material refers to any non-friable material excluding Category I materials that contain $> 1\%$ asbestos that when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.

The suspect ACM were also categorized into their applications including Thermal System Insulation (TSI), Surfacing ACM (S), and Miscellaneous ACM (M). TSI includes those materials used to prevent heat loss/gain or water condensation on mechanical systems. Examples of TSI are pipe insulation, boiler insulation, duct insulation, and mudded pipe fitting insulations. Surfacing ACM includes those ACM that are applied by spray, trowel, or otherwise applied to an existing surface. Surfacing ACM is commonly used for fireproofing, decorative, and acoustical applications. Miscellaneous materials include those ACM not listed as thermal or surfacing, such as linoleum, vinyl asbestos flooring, ceiling tiles, caulking, glues, construction adhesives, etc.

The EPA recommends collecting suspect ACM samples in a manner sufficient to determine asbestos content and to segregate each suspect type of homogeneous (similar in color, texture, and date of application) materials. The EPA NESHAP regulation does not specifically identify a minimum number of samples to be collected for each homogeneous material, but the NESHAP regulation does recommend the use of sampling protocols included in Title 40 CFR, Part 763, Subpart E: Asbestos Hazard Emergency Response Act (AHERA).

The EPA AHERA regulation requires a specific number of samples be collected based on the type of material and quantity present. This regulation includes the following protocol:

1. Surfacing Materials (S) (i.e., plasters, spray-applied fireproofings, etc.) must be collected in a randomly distributed manner representing each homogeneous area based on the overall quantity represented by the sampling as follows:
 - a. Three (3) samples collected from each homogeneous area that is less than or equal to 1,000 square feet.
 - b. Five (5) samples collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.
 - c. Seven (7) samples collected from each homogeneous area that is greater than 5,000 square feet.
2. Thermal System Insulation (TSI) (i.e., pipe insulations, tank insulations, etc.) must be collected in a randomly distributed manner representing each homogeneous area. Three (3) samples must be collected from each material. Also, a minimum of one (1) sample of any patching materials applied to TSI presuming the patched area is less than 6 linear or square feet should be collected.

3. Miscellaneous materials (M) (i.e., floor tile, gaskets, construction mastics, etc.) should have a minimum of two (2) samples collected for each type of homogeneous material. Sample collection was conducted in a manner sufficient to determine asbestos content of the homogeneous material as determined by the inspector.

The inspector collected samples of those suspect ACM anticipated to be disturbed by proposed demolition activities and prepared a proper chain of custody form for transmission of the samples to EMSL Analytical, Inc. for analysis. EMSL is a State of Connecticut-licensed and American Industrial Hygiene Association (AIHA)-accredited asbestos laboratory. The sample locations, material type, sample identification, and asbestos content are identified by bulk sample analysis in **Table 1** attached hereto. Suspect ACM not listed in the table that may be identified at a later date at the Site, should be assumed to be ACM until sample collection and analysis indicate otherwise. Initial asbestos sample analysis was conducted using the EPA Interim Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116) via Polarized Light Microscopy with Dispersion Staining (PLM/DS).

If samples of suspect materials could not be collected or were inaccessible but observed elsewhere, these materials were assumed to contain asbestos and the inspector approximated quantities. The roof was included in the scope of work for this inspection. Also, intrusive or destructive investigative techniques were performed at the Site to access and observe concealed areas that may have had suspect ACM that were hidden or obstructed from normal view.

Fuss & O'Neill conducted core boring to investigate the concrete foundation on October 29, 2021. Three locations were cored on the ground floor of the building including the main entry by the elevator, the back entry stairway, and the side entry to the church. Clear plastic vapor barrier was located below the slab. Plastic is not a suspect asbestos containing material, a sample was not collected. Fuss & O'Neill did not conduct subsurface investigations to identify suspect cementitious pipe or other suspect subgrade features at the Site.

2.2 Results

Utilizing the EPA protocol and criteria, the following materials were determined to contain asbestos:

- White joint compound associated with gypsum board walls and ceilings (Wall system considered asbestos);
- Exterior dark brown caulking associated with type 6 door (refer to *Appendix D*);
- Black flashing paper and cement on drive through and side entry portico roofs;
- Black tar around roof drain on drive through roof;
- Black flashing and cement on parapet wall on main roof;
- Penetration flashing cement on main roof; and
- Black caulking at top of metal flashing (termination bar) on main roof.

The following materials were identified as containing asbestos at less than one percent (< 1%):

- Tan glue associated with cool gray 4" vinyl cove base molding;

- Exterior gray caulking associated with louvres;
- Brown paper below built-up asphalt roofing; and
- Tan adhesive associated with elevator car carpet.

Refer to **Table 1** for a complete list of ACM and non-ACM sampled as part of this limited inspection. Refer to **Table 2** attached hereto for the ACM and materials containing <1% asbestos inventory. Refer to *Appendix C* for the asbestos laboratory reports and chain of custody forms. Refer to *Appendix D* for Site photographs.

2.3 Discussion

The EPA and the Occupational Safety and Health Administration (OSHA) define a material that contains greater than one percent ($> 1\%$) asbestos, utilizing PLM/DS, as being an ACM. The CTDPH defines any material that contains equal to or greater than one percent ($\geq 1\%$) asbestos, utilizing PLM/DS, as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos.

Suspect ACM not identified during these limited inspections should be presumed to contain asbestos until sample collection and laboratory analysis indicate otherwise.

Additionally, the EPA has suggested that materials that are non-friable organically bound (NOB) materials (e.g., asphaltic-based materials, adhesives, etc.) are recommended for further confirmatory analysis utilizing Transmission Electron Microscopy (TEM). Forty-seven of the collected samples were recommended to be analyzed by TEM. The results of TEM analysis are denoted in **Table 1**.

2.4 Conclusions and Recommendations

Based on visual observations, sample collection, and laboratory analysis, **asbestos is present at the Site**.

Prior to disturbance, ACM that would likely be impacted by the proposed demolition activities must first be abated by a state-licensed Asbestos Abatement Contractor. This is a requirement of CTDPH and EPA NESHAP regulations governing asbestos abatement.

Due to the inability to effectively separate some types of multi-layered ACM (e.g., gypsum board/joint compound, roof flashing/roof, etc.) from non-ACM, these materials are considered asbestos-contaminated and must be managed as ACM for the purposes of removal and disposal.

Suspect materials encountered during renovation/demolition that are not identified in this report as being non-ACM should be presumed to be ACM until sample collection and laboratory analysis indicate otherwise. Prior to renovation/demolition that may disturb hidden/inaccessible areas, we recommend conducting a supplemental asbestos inspection of these areas and spaces. These areas include:

- Behind mirrors.

Materials are present at the Site where concentrations of asbestos < 1%. While the EPA and the CTDPH identify materials containing < 1% as a non-asbestos containing material, OSHA worker protection regulations apply to materials containing any amount of asbestos.

This report is not intended to be utilized as a bidding document or as a project specification document. The report is designed to aid the building owner, construction manager, general contractors, and asbestos abatement contractors in locating identified ACM and materials containing <1% asbestos.

3 Lead-Based Paint Determination

On February 17, 2020, Ms. Kristina Snurkowski of Fuss & O'Neill performed a lead-based paint (LBP) determination associated with coated building components at the Site that will be disturbed during demolition activities. An x-ray fluorescence (XRF) analyzer was used to perform the LBP determination. The determination was conducted in accordance with generally accepted industry standards for non-residential (i.e., not child-occupied) buildings.

3.1 Methodology

A Heuresis Pb200i handheld XRF lead paint analyzer, serial number 2170, was utilized for the LBP determination. The instrument was checked for proper calibration prior to use as detailed by the manufacturer and the Performance Characteristic Sheet (PCS) developed for the instruments.

For the purpose of this LBP determination, representative building components were tested as part of this pre-demolition study. Individual repainting efforts are not discoverable in such a limited program. LBP issues involving properties that are not residential are regulated to a limited degree for worker protection relating to paint-disturbing work activities and waste disposal.

Worker protection is regulated by OSHA regulations, as well as CTDPH regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing lead-containing paint. An LBP determination cannot determine a safe level of lead but is intended to provide guidance for implementing industry standards for lead in paint at identified locations. Contractors may then better determine exposure of workers to airborne lead by understanding the different concentrations of LBP activities that disturb paint on representative surfaces.

The EPA Resource Conservation and Recovery Act (RCRA), as well as the Connecticut Department of Energy and Environmental Protection (CTDEEP), regulate disposal of lead-containing waste. Lead-containing materials that will be impacted during demolition activities and result in waste for disposal must either be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) analysis if lead is determined to be present in non-residential buildings or be presumed as a hazardous waste. A TCLP sample is a representative sample of the intended waste stream. The results are compared to a threshold value of 5.0 milligrams per liter (mg/L); a result exceeding this value is considered hazardous lead waste. If the result is below the established level, the material is not considered hazardous and may be disposed as general construction debris.

A level of LBP equal to or exceeding 1.0 milligrams of lead per square centimeter (mg/cm²) is considered toxic or dangerous for compliance with residential standards. For purpose of this LBP determination the level of 1.0 mg/cm² has been utilized as a threshold for areas where possible worker exposures may occur.

3.2 XRF Determination Results

The LBP determination indicated consistent painting trends associated with representative building components that may be impacted by potential demolition work. None of the tested building components were determined to contain levels of lead (equal to or greater than 1.0 mg/cm²).

Refer to *Appendix E* for the XRF lead determination field data sheets.

3.3 Discussion

OSHA published a Lead in Construction Standard (OSHA Lead Standard) Title 29 CFR, Part 1926.62 in May 1993. The OSHA Lead Standard has no set limit for the content of lead in paint below which the standards do not apply. The OSHA Lead Standards are task-based and derived from airborne exposure and blood lead levels.

The results of this LBP determination are intended to provide guidance to contractors for occupational lead exposure controls. Building components coated with lead levels above industry standards may cause exposures to lead above OSHA standards during proposed demolition activities. The results of this determination are also intended to provide insight into waste disposal requirements, in accordance with EPA RCRA regulations. Due to the destructive nature, TCLP sampling was not conducted.

3.4 Conclusion and Recommendations

Based on our LBP determination results, LBP is not present on coated building components located on or in the building that were tested by XRF.

Contractors must be made aware that OSHA has not established a level of lead in a material below which Title 29 CFR, Part 1926.62 does not apply. Contractors shall comply with exposure assessment criteria, interim worker protection, and other requirements of the regulation as necessary to protect workers during any demolition work that will impact lead paint.

4 Presumed PCB-Containing Source Building Materials Inspection

Sampling of building materials for polychlorinated biphenyls (PCBs) is presently not mandated by the EPA. However, significant liability exists for building owners who improperly dispose a PCB-containing waste material. Recent knowledge and awareness of PCBs within matrices such as caulking compounds,

glazing compounds, paints, adhesives, and ceiling tiles has become more prevalent, especially amongst remediation contractors, waste haulers, and disposal facilities.

Presently, building materials containing PCBs at concentrations equal to or greater than (\geq) 50 parts per million (ppm) or the equivalent units of milligrams per kilogram (mg/kg) are regulated by the EPA and characterized as PCB Bulk Product. Building materials containing less than ($<$) 50 ppm may also be regulated unless proven to be an Excluded PCB Product. The definition of an Excluded PCB Product includes those products or source of the products containing $<$ 50 ppm concentration PCBs that were legally manufactured, processed, distributed in commerce, or used before October 1, 1984. Building materials determined to be Excluded PCB Product containing $>$ 1 ppm PCBs but $<$ 50 ppm PCBs are regulated by the CTDEEP. Building materials containing \leq 1 ppm PCBs are considered non-regulated.

4.1 Inspection and Results

On February 17 and 18, 2020, Ms. Kristina Snurkowski performed a visual inspection of presumed PCB containing caulking and glazing materials at the Site.

Refer to **Table 3** for a list of presumed PCB-containing building materials. Refer to *Appendix F* for a photographic list of door and window types.

4.2 Conclusions and Recommendations

Fuss & O'Neill recommends the materials listed in Table 3 scheduled to be impacted by demolition activities be presumed to contain PCBs and handled and disposed of in accordance with EPA regulations as PCB Bulk Product Waste.

Fuss & O'Neill recommends that a comprehensive scope of work and technical specification for presumed PCB remediation during demolition be developed as part of Site demolition plans.

This report is not intended to be utilized as a bidding document or as a project specification document. The report is designed to aid the building owner, architect, construction manager, general contractors, and contractors in locating presumed PCB-containing materials.

5 PCB-Containing Fluorescent Light Ballasts and Mercury-Containing Equipment

5.1 PCB-Containing Fluorescent Ballasts

Fluorescent light ballasts manufactured prior to 1979 may contain capacitors that contain PCBs. Light ballasts installed as late as 1985 may also contain PCB capacitors. Fluorescent light ballasts that are not labeled as "No-PCBs" must be assumed to contain PCBs, unless proven otherwise by quantitative

analysis. Capacitors in fluorescent light ballasts labeled as non-PCB-containing may contain diethylhexyl phthalate (DEHP). DEHP was the primary substitute to replace PCBs for small capacitors in fluorescent light ballasts in use until 1991. DEHP is a toxic substance, a suspected carcinogen, and is listed under EPA RCRA and the Superfund law as a hazardous waste. Therefore, EPA Superfund liability exists for landfilling both PCB and DEHP-containing light ballasts. These listed materials are considered hazardous waste under EPA RCRA and require special handling and disposal considerations.

On February 17 and 18, 2020, Fuss & O'Neill representative, Ms. Kristina Snurkowski performed a visual inspection of representative fluorescent light fixtures to identify possible PCB-containing light ballasts. The inspection involved visually inspecting labels on representative light ballasts to identify dates of manufacture and labels indicating "No PCBs". Ballasts manufactured after 1991 were not listed as PCB or DEHP-containing ballasts and were not quantified for disposal.

The light ballasts without a label indicating "No PCBs" are presumed to be PCB-containing waste and must be segregated for proper removal, packaging, transport, and disposal as PCB-containing waste. Those light ballasts labeled as "No PCBs" indicating manufacture dates prior to 1991 are presumed to contain DEHP. DEHP-containing light ballasts must be segregated for proper removal, packaging, transport, and disposal as non-PCB hazardous waste. Note that disposal requirements for DEHP-containing ballasts are slightly varied, and disposal costs are slightly less than PCB-containing light ballasts. Note that the ballasts observed during this inspection were manufactured by Advanced Transformer Co. and marked "No PCBs". Therefore, ballasts were presumed to be DEHP containing. Refer to **Table 4** for the DEHP-Containing Light Ballasts Inventory.

5.2 Mercury-Containing Equipment

Fluorescent lamps/tubes are presumed to contain mercury vapor, which is a hazardous substance to both human health and the environment. Thermostatic controls and electrical switch gear may contain a vial or bulb of mercury associated with the control. Mercury-containing equipment is regulated for proper disposal by the EPA RCRA hazardous waste regulations. According to the EPA, mercury lamps are characterized as a Universal Waste. Therefore, fluorescent lamps must be either recycled, or disposed as hazardous waste.

On February 17 and 18, 2020, Fuss & O'Neill representative, Ms. Kristina Snurkowski, performed an inventory of mercury equipment. These fixtures were inventoried in-place. Refer to **Table 5** for the Mercury-Containing Equipment Inventory.

Report prepared by Environmental Technician, Kristina Snurkowski.

Reviewed by:



Carlos Texidor
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Tables

Table 1
Summary of Suspect Asbestos-Containing Materials

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
Initial Inspection 2/17/20				
021720KS-01A	1st floor chapel wall	White joint compound associated with gypsum board	2% Chrysotile	PLM
021720KS-01B	1 st floor office area closet wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01C	1 st floor storage room next to chapel wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01D	2 nd floor mechanical room wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01E	2 nd floor event room wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01F	2 nd floor conference room ceiling	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01G	A side stairway ceiling	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-02A	1 st floor chapel wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02B	1 st floor office area closet wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02C	1 st floor storage room next to chapel wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02D	2 nd floor mechanical room wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02E	2 nd floor event room wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02F	2 nd floor conference room ceiling	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02G	A side stairway ceiling	Gray gypsum board ceilings and walls	ND	PLM
021720KS-03A	1st floor chapel wall	White joint compound and Gray gypsum board composite	<1% Chrysotile	PLM
021720KS-03B	1st floor office area closet wall	White joint compound and Gray gypsum board composite	<1% Chrysotile	PLM
021720KS-03C	1st floor storage room next to chapel wall	White joint compound and Gray gypsum board composite	<1% Chrysotile	PLM
021720KS-03D	2 nd floor mechanical room wall	White joint compound and Gray gypsum board composite	ND	PLM
021720KS-03E	2 nd floor event room wall	White joint compound and Gray gypsum board composite	ND	PLM
021720KS-03F	2 nd floor conference room ceiling	White joint compound and Gray gypsum board composite	ND	PLM
021720KS-03G	A side stairway ceiling	White joint compound and Gray gypsum board composite	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-04A	Second floor storage room next to kitchen	White popcorn textured ceiling paint	ND/ND	PLM/TEM
021720KS-04B	Second floor religious education classroom	White popcorn textured ceiling paint	ND	PLM
021720KS-04C	Second floor conference room	White popcorn textured ceiling paint	ND	PLM
021720KS-05A	1 st floor closet outside main entry	Brown 6"x6" ceramic tile	ND	PLM
021720KS-05B	1 st floor closet outside main entry	Brown 6"x6" ceramic tile	ND	PLM
021720KS-06A	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-06B	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-07A	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-07B	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-08A	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-08B	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-09A	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile	ND/ND	PLM/TEM
021720KS-09B	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-10A	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-10B	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-11A	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile	ND	PLM
021720KS-11B	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile	ND	PLM
021720KS-12A	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile	ND/ND	PLM/TEM
021720KS-12B	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile	ND	PLM
021720KS-13A	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet	ND/ND	PLM/TEM
021720KS-13B	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet	ND	PLM
021720KS-14A	1 st floor storage room next to chapel	Yellow glue associated with brown carpet	ND/ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-14B	1 st floor storage room next to chapel	Yellow glue associated with brown carpet	ND	PLM
021720KS-15A	1 st floor main entry	Warm gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-15B	1 st floor main entry	Warm gray 4" vinyl cove base	ND	PLM
021720KS-16A	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-16B	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base	ND	PLM
021720KS-17A	1 st floor chapel	White 2'x2' suspended ceiling tile with pockets and pinholes pattern	ND	PLM
021720KS-17B	1 st office area	White 2'x2' suspended ceiling tile with pockets and pinholes pattern	ND	PLM
021720KS-18A	1 st floor chapel	Tan glue on wall	ND/ND	PLM/TEM
021720KS-18B	1 st floor chapel	Tan glue on wall	ND	PLM
021720KS-19A	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet	ND/ND	PLM/TEM
021720KS-19B	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet	ND	PLM
021720KS-20A	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile	ND	PLM
021720KS-20B	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile	ND	PLM
021720KS-21A	1 st floor office area closet	Cool gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-21B	1 st floor office area closet	Cool gray 4" vinyl cove base	ND	PLM
021720KS-22A	1st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base	ND/0.85% Chrysotile	PLM/TEM
021720KS-22B	1 st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base	ND	PLM
021720KS-23A	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation	ND	PLM
021720KS-23B	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation	ND	PLM
021720KS-23C	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation	ND	PLM
021720KS-24A	1 st floor closet outside main entry	Concrete foundation	ND	PLM
021720KS-24B	1 st floor office area closet	Concrete foundation	ND	PLM
021720KS-25A	2 nd floor mechanical room interior wall	Interior brick wall	ND	PLM
021720KS-25B	B side exterior wall by side entry	Exterior brick wall	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-26A	2 nd floor mechanical room interior wall	Gray mortar associated with brick wall	ND	PLM
021720KS-26B	B side exterior wall by side entry	Gray mortar associated with brick wall	ND	PLM
021720KS-27A	B side exterior wall by side entry	Red patch mortar associated with brick wall	ND	PLM
021720KS-27B	C side exterior wall	Red patch mortar associated with brick wall	ND	PLM
021720KS-28A	2 nd floor kitchen	White with multicolor accents 12"x12" vinyl floor tile	ND/ND	PLM/TEM
021720KS-28B	2 nd floor loft above office area	White with multicolor accents 12"x12" vinyl floor tile	ND	PLM
021720KS-29A	2 nd floor kitchen	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile	ND/ND	PLM/TEM
021720KS-29B	2 nd floor loft above office area	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile	ND	PLM
021720KS-30A	2 nd floor kitchen	Dark gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-30B	2 nd floor kitchen	Dark gray 4" vinyl cove base	ND	PLM
021720KS-31A	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-31B	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base	ND	PLM
021720KS-32A	1 st floor chapel	Tan 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-32B	2 nd floor wash room	Tan 4" vinyl cove base	ND	PLM
021720KS-33A	1 st floor chapel	Tan glue associated with Tan 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-33B	2 nd floor wash room	Tan glue associated with Tan 4" vinyl cove base	ND	PLM
021720KS-34A	2 nd floor wash room	Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-34B	2 nd floor wash room	Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-35A	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-35B	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-36A	2 nd floor men's bathroom	White 2"x2" ceramic floor tile	ND	PLM
021720KS-36B	2 nd floor men's bathroom	White 2"x2" ceramic floor tile	ND	PLM
021720KS-37A	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile	ND	PLM
021720KS-37B	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-38A	2 nd floor women's bathroom	Tan multicolor ceramic floor tile	ND	PLM
021720KS-38B	2 nd floor women's bathroom	Tan multicolor ceramic floor tile	ND	PLM
021720KS-39A	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile	ND/ND	PLM/TEM
021720KS-39B	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile	ND	PLM
021720KS-40A	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile	ND	PLM
021720KS-40B	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile	ND	PLM
021720KS-41A	2 nd floor women's bathroom	Sand 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-41B	2 nd floor women's bathroom	Sand 4" vinyl cove base	ND	PLM
021720KS-42A	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-42B	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base	ND	PLM
021720KS-43A	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-43B	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base	ND	PLM
021720KS-44A	2 nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-44B	2 nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base	ND	PLM
021720KS-45A	2 nd floor women's bathroom	White paper facing on fiberglass suspended ceiling tile	ND	PLM
021720KS-45B	2 nd floor men's bathroom	White paper facing on fiberglass suspended ceiling tile	ND	PLM
021720KS-46A	2 nd floor hallway	Off white fabric wallpaper	ND/ND	PLM/TEM
021720KS-46B	2 nd floor hallway	Off white fabric wallpaper	ND	PLM
021720KS-47A	2 nd floor former Castle bank office space	Yellow glue associated with gray carpet	ND/ND	PLM/TEM
021720KS-47B	2 nd floor hallway	Yellow glue associated with gray carpet	ND	PLM
021720KS-48A	Type 2 Door – Interior caulking	Brown caulking associated with type 2 door	ND/ND	PLM/TEM
021720KS-48B	Type 2 Door – Exterior caulking	Brown caulking associated with type 2 door	ND	PLM
021720KS-49A	Type 3 Door – Interior caulking	Dark gray caulking associated with type 3 door	ND/ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-49B	Type 3 Door – Exterior caulking	Dark gray caulking associated with type 3 door	ND	PLM
021720KS-50A	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door	ND/ND	PLM/TEM
021720KS-50B	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door	ND	PLM
021720KS-51A	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door	ND/3.0% Anthophyllite	PLM/TEM
021720KS-51B	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door	ND	PLM
021720KS-52A	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door	ND/ND	PLM/TEM
021720KS-52B	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door	ND	PLM
021720KS-53A	Type 1 Window – Exterior caulking – A Side	Gray caulking associated with type 1 window	ND/ND	PLM/TEM
021720KS-53B	Type 1 Window – Exterior caulking – C Side	Gray caulking associated with type 1 window	ND	PLM
021720KS-54A	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window	ND/ND	PLM/TEM
021720KS-54B	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window	ND	PLM
021720KS-55A	Bank drive through roof where metal meets brick façade	Gray caulking associated with portico wall	ND/ND	PLM/TEM
021720KS-55B	Side entry portico where metal meets brick façade	Gray caulking associated with portico wall	ND	PLM
021720KS-56A	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk	ND/ND	PLM/TEM
021720KS-56B	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk	ND	PLM
Supplemental Inspection 10/14/21				
101421KS-01A	Building C Side Louvres	Exterior gray caulking associated with louvres	ND/0.48% Anthophyllite	PLM/TEM
101421KS-01B	Building C Side Louvres	Gray caulking associated with louvres	ND	PLM
101421KS-02A	Drive through canopy roof - Field	Black lap sealant associated with membrane	ND/ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
101421KS-02B	Drive through canopy roof - Field	Black lap sealant associated with membrane	ND	PLM
101421KS-03A	Drive through canopy roof - Field	Black roofing membrane	ND/ND	PLM/TEM
101421KS-03B	Drive through canopy roof - Field	Black roofing membrane	ND	PLM
101421KS-04A	Drive through canopy roof - Field	Brown fiberboard	ND	PLM
101421KS-04B	Drive through canopy roof - Field	Brown fiberboard	ND	PLM
101421KS-05A	Drive through canopy roof - Flashing	Black flashing paper	15% Chrysotile	PLM
101421KS-05B	Drive through canopy roof - Flashing	Black flashing paper	NA/Pos stop	-
101421KS-06A	Drive through canopy roof - Flashing	Black flashing cement	7% Chrysotile	PLM
101421KS-06B	Drive through canopy roof - Flashing	Black flashing cement	NA/Pos stop	-
101421KS-07A	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall	ND/ND	PLM/TEM
101421KS-07B	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall	ND	PLM
101421KS-08A	Drive through canopy roof	Black caulking around roof drain	ND/ND	PLM/TEM
101421KS-08B	Drive through canopy roof	Black caulking around roof drain	ND	PLM
101421KS-09A	Drive through canopy roof	Black tar around roof drain	7% Chrysotile	PLM
101421KS-09B	Drive through canopy roof	Black tar around roof drain	NA/Pos stop	-
101421KS-10A	Main building roof – Flashing	Black flashing up parapet wall	15% Chrysotile	PLM
101421KS-10B	Main building roof – Flashing	Black flashing up parapet wall	NA/Pos stop	-
101421KS-11A	Main building roof – Flashing	Black flashing cement up parapet wall	7% Chrysotile	PLM
101421KS-11B	Main building roof – Flashing	Black flashing cement up parapet wall	NA/Pos stop	-
101421KS-12A	Main building roof - Penetrations	Penetration flashing cement	5% Chrysotile	PLM
101421KS-12B	Main building roof - Penetrations	Penetration flashing cement	NA/Pos stop	-
101421KS-13A	Main building roof – Flashing	Black caulking at top of metal flashing	5% Chrysotile	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
101421KS-13B	Main building roof – Flashing	Black caulking at top of metal flashing	NA/Pos stop	-
101421KS-14A	Main building roof – Field	Black lap sealant associated with black membrane	ND/ND	PLM/TEM
101421KS-14B	Main building roof – Field	Black lap sealant associated with black membrane	ND	PLM
101421KS-15A	Main building roof – Field	Black membrane	ND/ND	PLM/TEM
101421KS-15B	Main building roof – Field	Black membrane	ND	PLM
101421KS-16A	Main building roof – Field	Gray paper associated with iso foam layers	ND	PLM
101421KS-16B	Main building roof – Field	Gray paper associated with iso foam layers	ND	PLM
101421KS-17A	Main building roof – Field	Brown fiberboard	ND	PLM
101421KS-17B	Main building roof – Field	Brown fiberboard	ND	PLM
101421KS-18A	Main building roof – Field	Black built up asphalt roofing	ND/ND	PLM/TEM
101421KS-18B	Main building roof – Field	Black built up asphalt roofing	ND	PLM
101421KS-19A	Main building roof – Field	Brown paper	<1% Chrysotile	PLM
101421KS-19B	Main building roof – Field	Brown paper	ND	PLM
101421KS-20A	Main building roof – Parapet Wall	Red terra cotta block mortar	ND	PLM
101421KS-20B	Main building roof – Parapet Wall	Red terra cotta block mortar	ND	PLM
101421KS-21A	Main building roof – Parapet Wall	Terra cotta parapet wall capstone	ND	PLM
101421KS-21B	Main building roof – Parapet Wall	Terra cotta parapet wall capstone	ND	PLM
101421KS-22A	Second floor mechanical room	Black flex connector associated with ductwork	ND/ND	PLM/TEM
101421KS-22B	Second floor mechanical room	Black flex connector associated with ductwork	ND	PLM
Supplemental Inspection 10/21/21				
102121KS-01A	Elevator Car	Tan adhesive associated with tan carpet	ND/<0.1% Chrysotile	PLM/TEM
102121KS-01B	Elevator Car	Tan adhesive associated with tan carpet	ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
102121KS-02A	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall	ND	PLM/TEM
102121KS-02B	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall	ND	PLM/TEM
102121KS-02C	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall	ND	PLM/TEM

NA/Pos Stop = Not Analyzed/Positive Stop

ND = None Detected

Table 2
Summary of Asbestos-Containing Materials and Materials Containing <1% Inventory

Location	Material Type	Asbestos Content	Estimated Total Quantity	Comments
1st Floor: Chapel, Side entry, Main entry, Closet, Mechanical Room, Storage room, Women's Bathroom, Men's bathroom, Office area, Office bathroom, and Stairways; 2nd Floor: Event room, Hallway, Kitchen, Small storage room, Large storage room, Washroom, Men's bathroom, Women's bathroom, Former bank main office area, Classroom, Conference room, office, HVAC mechanical room, and Loft	White joint compound associated with gypsum board walls and ceilings	2% Chrysotile	16,476 SF	Wall system including sheetrock will be considered ACM. Note that skim coat joint compound/plaster applied to CMU block in main entry is a different material and was ND for asbestos.
	White joint compound and gray gypsum board composite walls and ceilings	<1% Chrysotile		
1 st floor office area, 1st floor church office, 1st floor main entry	Tan glue associated with cool gray 4" vinyl cove base	0.85% Chrysotile	156 LF	None
Type 6 Door – Between Chapel and main entry vestibule Interior caulking	Dark brown caulking associated with type 6 door	3.0% Anthophyllite	25 LF 1 Door	None
Elevator Car	Tan adhesive associated with tan carpet	<0.1% Chrysotile	25 SF	Elevator is inoperable. Technician will likely be needed to provide access.
Building C Side Louvres	Gray caulking associated with louvres	0.48% Anthophyllite	40 LF	2 Louvres accessed from lift on the parking lot side
Drive through canopy roof and side entry portico roof - Flashing	Black flashing paper	15% Chrysotile	40 LF	Low roofs of drive through and portico where they attach to the brick wall of the building
Drive through canopy roof and side entry portico roof - Flashing	Black flashing cement	7% Chrysotile	40 LF	
Drive through canopy roof	Black tar around roof drain	7% Chrysotile	20 SF	Sampled where it leaked into the roof drain

Location	Material Type	Asbestos Content	Estimated Total Quantity	Comments
Main building roof – Flashing	Black flashing up parapet wall	15% Chrysotile	390 LF	At roof edges up parapet wall and middle divider wall
Main building roof – Flashing	Black flashing cement up parapet wall	7% Chrysotile	390 LF	
Main building roof - Penetrations	Penetration flashing cement	5% Chrysotile	130 SF	None
Main building roof – Flashing	Black caulking at top of metal flashing	5% Chrysotile	390 SF	Termination bar calking
Main building roof – Field	Brown paper	<1% Chrysotile	4,400 SF	Bottom layer paper below built-up asphalt roof

LF = Linear Feet; SF = Square Feet

Table 3
Presumed PCB Containing Material Inventory

Location	Material Type	PCB Content	Estimated Total Quantity	Comments
Type 2 Door – Interior Caulking	Brown Caulking associated with Type 2 Door	Presumed >50 PPM	22 LF 1 Door	Non-asbestos containing
Type 3 Door – Interior Caulking	Dark Gray Caulking associated with Type 3 Door	Presumed >50 PPM	22.75 LF 1 Door	Non-asbestos containing
Type 4 Door – Exterior Caulking	Light Brown Caulking associated with Type 4 Door	Presumed >50 PPM	22 LF 1 Door	Non-asbestos containing
Type 5 Door – Interior Caulking	Dark Gray Caulking associated with Type 5 Door	Presumed >50 PPM	35 LF 1 Door	Non-asbestos containing
Type 6 Door – Interior Caulking	Dark Brown Caulking associated with Type 6 Door	Presumed >50 PPM	25 LF 1 Door	3.0% Anthophyllite
Type 7 Door – Interior Glazing	Light Gray Glazing associated with Type 7 Door	Presumed >50 PPM	12 LF 1 Door	Non-asbestos containing
Type 1 Windows - Throughout	Gray Caulking associated with Type 1 Window	Presumed >50 PPM	697 LF 41 Windows	Non-asbestos containing
Type 2 Windows - A Side Second Floor	Gray Caulking associated with Type 2 Window	Presumed >50 PPM	110 LF 5 Windows	Same as type 1 windows
Type 3 Windows - A Side Second Floor	Gray Caulking associated with Type 3 Window	Presumed >50 PPM	21 LF 1 Windows	Same as type 1 windows
Type 4 Windows - B And D Side Attic Level	Gray Caulking associated with Type 4 Window	Presumed >50 PPM	112 LF 8 Windows	Same as type 1 windows

Location	Material Type	PCB Content	Estimated Total Quantity	Comments
Type 5 Windows - Side Bank Drive Through Windows	Brown Caulking associated with Type 5 Window	Presumed >50 PPM	32 LF 2 Windows	Non-asbestos containing
Bank Drive Through Roof Where Metal Meets Brick Façade	Gray Caulking associated with Portico Wall	Presumed >50 PPM	12 LF	Non-asbestos containing
A Side Exterior By Sidewalk	Light Gray Exterior Horizontal Joint Caulking Between Building And Sidewalk	Presumed >50 PPM	155 LF	Non-asbestos containing
Building C Side Louvres	Gray caulking associated with louvres	Presumed >50 PPM	40 LF	0.48% Anthophyllite 2 Louvres accessed from lift on the parking lot side
All window openings and door openings	Adjacent Brick	Presumed >50 PPM	3,600 SF	All Adjacent Brick in contact with presumed PCBs Caulking compounds will be diamond cut and removed. Please refer to specifications for further instructions

PPM = Parts per million; LF = Linear Feet

Table 4
PCB/DEHP-Containing Light Ballasts Inventory

Type	Estimated Quantity
DEHP	45

Table 5
Mercury-Containing Equipment Inventory

Type	Estimated Quantity
2' Light Tubes	107
4' Light Tubes	44
Circular Light Tubes	1
U Shaped Light Tubes	2
Total Light Tubes	154
Emergency Lights	4
Exit Signs	6
High Intensity Discharge (HID) Light	5

Appendix A

Limitations

APPENDIX A

Site: 100 Hanover Street, Meriden, Connecticut

1. This inspection report has been prepared for the exclusive use of the City of Meriden (the "Client") and is subject to and is issued in connection with the terms and conditions of the original Agreement and all of its provisions. Any use or reliance upon information provided in this report, without the specific written authorization of the Client and Fuss & O'Neill, Inc. (Fuss & O'Neill) shall be at the User's individual risk. This report should not be used as an abatement specification. All quantities of materials identified during this inspection are approximate.
2. Fuss & O'Neill has obtained and relied upon information from multiple sources to form certain conclusions regarding likely environmental issues at and in the vicinity of the subject property in conducting this inspection. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information or verify compliance by any party with federal, state, or local laws or regulations.
3. Fuss & O'Neill has obtained and relied upon laboratory analytical results in conducting the inspection. This information was used to form conclusions regarding the types and quantities of ACM, LBP, and PCBs that must be managed prior to renovation or demolition activities that may disturb these materials at the Site. Fuss & O'Neill has not performed an independent review of the reliability of this laboratory data.
4. Unless otherwise noted, only suspect hazardous materials associated within or located on the building (aboveground) were included in this inspection. Suspect hazardous materials may exist below the ground surface that were not included in the scope of work of this inspection. Fuss & O'Neill cannot guarantee all asbestos or suspect hazardous materials were identified within the areas included in the scope of work. Only visible and accessible areas were included in the scope of work for this inspection.
5. The findings, observations and conclusions presented in this report are limited by the scope of services outlined in our written proposal dated April 30, 2021. Furthermore, the assessment has been conducted in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made.
6. The conclusions presented in this report are based solely upon information gathered by Fuss & O'Neill to date. Should further environmental or other relevant information be discovered at a later date, the Client should immediately bring the information to the Fuss & O'Neill's attention. Based upon an evaluation and assessment of relevant information, Fuss & O'Neill may modify the report and its conclusions.

Appendix B

Fuss & O'Neill Inspector License and Accreditations

1005746 SP

1164

-C01-P05753-I



KRISTINA M SNURKOWSKI
FUSS & O'NEILL INC
146 HARTFORD RD
MANCHESTER CT 06040-5992

Dear KRISTINA M SNURKOWSKI,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

DEIDRE S. GIFFORD, MD, MPH, ACTING COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

EMPLOYER'S COPY		
STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH		
NAME KRISTINA M SNURKOWSKI		
VALIDATION NO. 03-899962	CERTIFICATE NO. 000978	CURRENT THROUGH 08/31/22
PROFESSION ASBESTOS CONSULTANT-INSPECTOR		
 SIGNATURE	 ACTING COMMISSIONER	

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
ASBESTOS CONSULTANT-INSPECTOR

KRISTINA M SNURKOWSKI

CERTIFICATE NO.
000978

CURRENT THROUGH
08/31/22

VALIDATION NO.
03-899962

SIGNATURE
ACTING COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD		
STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH		
NAME KRISTINA M SNURKOWSKI		
VALIDATION NO. 03-899962	CERTIFICATE NO. 000978	CURRENT THROUGH 08/31/22
PROFESSION ASBESTOS CONSULTANT-INSPECTOR		
 SIGNATURE	 ACTING COMMISSIONER	

CERTIFICATE OF ACHIEVEMENT

This certifies that

Kristina Snurkowski

has successfully completed the
4 Hour Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

Course training provided via
a live Webinar.

conducted by

Exam Score: 96%

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

December 10, 2020

Date of Course

December 10, 2021

Expiration Date

Gregory Morsch

Regional Training Manager: Gregory Morsch

SIAR-6757

Certificate Number

December 10, 2020

Examination Date

1003497 SP

1164

-C01-P03502-I



KRISTINA M SNURKOWSKI
FUSS & O'NEILL INC
146 HARTFORD RD
MANCHESTER CT 06040-5992

Dear KRISTINA M SNURKOWSKI,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

DEIDRE S. GIFFORD, MD, MPH, ACTING COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
LEAD INSPECTOR

KRISTINA M SNURKOWSKI

CERTIFICATE NO.
002253
CURRENT THROUGH
08/31/22
VALIDATION NO.
03-897711

SIGNATURE
ACTING COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME

KRISTINA M SNURKOWSKI

VALIDATION NO.
03-897711

CERTIFICATE NO.
002253

CURRENT THROUGH
08/31/22

PROFESSION
LEAD INSPECTOR

SIGNATURE
ACTING COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME

KRISTINA M SNURKOWSKI

VALIDATION NO.
03-897711

CERTIFICATE NO.
002253

CURRENT THROUGH
08/31/22

PROFESSION
LEAD INSPECTOR

SIGNATURE
ACTING COMMISSIONER

CERT#: L-500-Virtual.319

CHEMSCOPE TRAINING DIVISION

LEAD INSPECTOR REFRESHER

8-HOUR TRAINING CERTIFICATE

Kristina M. Snurkowski

146 Hartford Road, Manchester CT

Has attended an 8-hour course on the subject discipline in English on
01/11/2021 and has passed a written examination.

The above individual has successfully completed the above training course approved in accordance with the Department of Public Health Standards established pursuant to Section 20-477 of the Connecticut General Statutes.

Course syllabus includes all required topics of State of Connecticut DPH and EPA.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (U.S.C. 1001 and 15 U.S. C. 2615), I certify that this training complies with all applicable requirements of Title IV of TSCA, 40 CFR part 745 and any other applicable Federal, State or local requirements.

Examination Score: 98%

Exam Date: 01/11/2021

Expiration Date: 01/11/2022



Daniel Sullivan
Training Manager

Chem Scope, Inc.
15 Moulthrop Street
North Haven CT 06473
Phone: 203.865.5605
www.chem-scope.com

Appendix C

Asbestos Laboratory Reports and Chain of Custody Forms



FUSS & O'NEILL

146 Hartford Road, Manchester, CT 06040

Fuss & O'Neill EMSL Customer No. ENVI54

www.fando.com

 RECEIVED
 EMSL ANALYTICAL, INC.
 CARLE PLACE, NY

Phone (860) 646-2469

20 FEB 22 AM 10:09

Page 1 of 6

Date: 2/17/20

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

208

Project Name: City of Meriden - 100 Hannover Street

Project No. 20170932.C10

Task No.: ~~530~~

Site Address: 100 Hannover Street, Meriden, CT

Location: Commercial building

Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
021720KS-01A	1 st floor chapel wall	White joint compound associated with gypsum board
021720KS-01B	1 st floor office area closet wall	White joint compound associated with gypsum board
021720KS-01C	1 st floor storage room next to chapel wall	White joint compound associated with gypsum board
021720KS-01D	2 nd floor mechanical room wall	White joint compound associated with gypsum board
021720KS-01E	2 nd floor event room wall	White joint compound associated with gypsum board
021720KS-01F	2 nd floor conference room ceiling	White joint compound associated with gypsum board
021720KS-01G	A side stairway ceiling	White joint compound associated with gypsum board
021720KS-02A	1 st floor chapel wall	Gray gypsum board ceilings and walls
021720KS-02B	1 st floor office area closet wall	Gray gypsum board ceilings and walls
021720KS-02C	1 st floor storage room next to chapel wall	Gray gypsum board ceilings and walls
021720KS-02D	2 nd floor mechanical room wall	Gray gypsum board ceilings and walls
021720KS-02E	2 nd floor event room wall	Gray gypsum board ceilings and walls
021720KS-02F	2 nd floor conference room ceiling	Gray gypsum board ceilings and walls
021720KS-02G	A side stairway ceiling	Gray gypsum board ceilings and walls
021720KS-03A	1 st floor chapel wall	White joint compound and Gray gypsum board composite
021720KS-03B	1 st floor office area closet wall	White joint compound and Gray gypsum board composite
021720KS-03C	1 st floor storage room next to chapel wall	White joint compound and Gray gypsum board composite
021720KS-03D	2 nd floor mechanical room wall	White joint compound and Gray gypsum board composite
021720KS-03E	2 nd floor event room wall	White joint compound and Gray gypsum board composite
021720KS-03F	2 nd floor conference room ceiling	White joint compound and Gray gypsum board composite
021720KS-03G	A side stairway ceiling	White joint compound and Gray gypsum board composite
021720KS-04A	Second floor storage room next to kitchen	White popcorn textured ceiling paint
021720KS-04B	Second floor religious education classroom	White popcorn textured ceiling paint
021720KS-04C	Second floor conference room	White popcorn textured ceiling paint

262003961



FUSS & O'NEILL

146 Hartford Road, Manchester, CT 06040

 RECEIVED
 EMSL ANALYTICAL, INC.
 CARLE PLACE, NY

Fuss & O'Neill EMSL Customer No. ENV154

www.fando.com

Phone (860) 646-2469

20 FEB 22 AM 10:09

Page 2 of 6

Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-05A	1 st floor closet outside main entry	Brown 6"x6" ceramic tile
021720KS-05B	1 st floor closet outside main entry	Brown 6"x6" ceramic tile
021720KS-06A	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile
021720KS-06B	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile
021720KS-07A	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile
021720KS-07B	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile
021720KS-08A	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile
021720KS-08B	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile
021720KS-09A	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile
021720KS-09B	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile
021720KS-10A	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile
021720KS-10B	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile
021720KS-11A	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile
021720KS-11B	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile
021720KS-12A	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile
021720KS-12B	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile
021720KS-13A	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet
021720KS-13B	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet
021720KS-14A	1 st floor storage room next to chapel	Yellow glue associated with brown carpet
021720KS-14B	1 st floor storage room next to chapel	Yellow glue associated with brown carpet
021720KS-15A	1 st floor main entry	Warm gray 4" vinyl cove base
021720KS-15B	1 st floor main entry	Warm gray 4" vinyl cove base
021720KS-16A	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base
021720KS-16B	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base
021720KS-17A	1 st floor chapel	White 2'x2' suspended ceiling tile with pockets and pinholes pattern
021720KS-17B	1 st office area	White 2'x2' suspended ceiling tile with pockets and pinholes pattern

Justin Valles 2/17/20

262003961



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Page 3 of 6

Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-18A	1 st floor chapel	Tan glue on wall
021720KS-18B	1 st floor chapel	Tan glue on wall
021720KS-19A	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet
021720KS-19B	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet
021720KS-20A	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile
021720KS-20B	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile
021720KS-21A	1 st floor office area closet	Cool gray 4" vinyl cove base
021720KS-21B	1 st floor office area closet	Cool gray 4" vinyl cove base
021720KS-22A	1 st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base
021720KS-22B	1 st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base
021720KS-23A	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation
021720KS-23B	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation
021720KS-23C	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation
021720KS-24A	1 st floor closet outside main entry	Concrete foundation
021720KS-24B	1 st floor office area closet	Concrete foundation
021720KS-25A	2 nd floor mechanical room interior wall	Interior brick wall
021720KS-25B	B side exterior wall by side entry	Exterior brick wall
021720KS-26A	2 nd floor mechanical room interior wall	Gray mortar associated with brick wall
021720KS-26B	B side exterior wall by side entry	Gray mortar associated with brick wall
021720KS-27A	B side exterior wall by side entry	Red patch mortar associated with brick wall
021720KS-27B	C side exterior wall	Red patch mortar associated with brick wall
021720KS-28A	2 nd floor kitchen	White with multicolor accents 12"x12" vinyl floor tile
021720KS-28B	2 nd floor loft above office area	White with multicolor accents 12"x12" vinyl floor tile
021720KS-29A	2 nd floor kitchen	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile
021720KS-29B	2 nd floor loft above office area	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile
021720KS-30A	2 nd floor kitchen	Dark gray 4" vinyl cove base
021720KS-30B	2 nd floor kitchen	Dark gray 4" vinyl cove base



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Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-31A	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base
021720KS-31B	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base
021720KS-32A	1 st floor chapel	Tan 4" vinyl cove base
021720KS-32B	2 nd floor wash room	Tan 4" vinyl cove base
021720KS-33A	1 st floor chapel	Tan glue associated with Tan 4" vinyl cove base
021720KS-33B	2 nd floor wash room	Tan glue associated with Tan 4" vinyl cove base
021720KS-34A	2 nd floor wash room	Off white 4"x4" ceramic floor tile
021720KS-34B	2 nd floor wash room	Off white 4"x4" ceramic floor tile
021720KS-35A	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile
021720KS-35B	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile
021720KS-36A	2 nd floor men's bathroom	White 2"x2" ceramic floor tile
021720KS-36B	2 nd floor men's bathroom	White 2"x2" ceramic floor tile
021720KS-37A	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile
021720KS-37B	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile
021720KS-38A	2 nd floor women's bathroom	Tan multicolor ceramic floor tile
021720KS-38B	2 nd floor women's bathroom	Tan multicolor ceramic floor tile
021720KS-39A	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile
021720KS-39B	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile
021720KS-40A	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile
021720KS-40B	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile
021720KS-41A	2 nd floor women's bathroom	Sand 4" vinyl cove base
021720KS-41B	2 nd floor women's bathroom	Sand 4" vinyl cove base
021720KS-42A	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base
021720KS-42B	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base
021720KS-43A	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base
021720KS-43B	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base
021720KS-44A	2 nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base

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Page 5 of 6

Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-44B	2nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base
021720KS-45A	2nd floor women's bathroom	White paper facing on fiberglass suspended ceiling tile
021720KS-45B	2nd floor men's bathroom	White paper facing on fiberglass suspended ceiling tile
021720KS-46A	2nd floor hallway	Off white fabric wallpaper
021720KS-46B	2nd floor hallway	Off white fabric wallpaper
021720KS-47A	2nd floor former Castle bank office space	Yellow glue associated with gray carpet
021720KS-47B	2nd floor hallway	Yellow glue associated with gray carpet
021720KS-48A	Type 2 Door – Interior caulking	Brown caulking associated with type 2 door
021720KS-48B	Type 2 Door – Exterior caulking	Brown caulking associated with type 2 door
021720KS-49A	Type 3 Door – Interior caulking	Dark gray caulking associated with type 3 door
021720KS-49B	Type 3 Door – Exterior caulking	Dark gray caulking associated with type 3 door
021720KS-50A	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door
021720KS-50B	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door
021720KS-51A	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door
021720KS-51B	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door
021720KS-52A	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door
021720KS-52B	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door
021720KS-53A	Type 1 Window – Exterior caulking – A Side	Gray caulking associated with type 1 window
021720KS-53B	Type 1 Window – Exterior caulking – C Side	Gray caulking associated with type 1 window
021720KS-54A	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window
021720KS-54B	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window
021720KS-55A	Bank drive through roof where metal meets brick façade	Gray caulking associated with portico wall
021720KS-55B	Side entry portico where metal meets brick façade	Gray caulking associated with portico wall
021720KS-56A	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk
021720KS-56B	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk

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Date: 2/17/20

Analysis Method: ☒ PLM ☐ TEM ☐ Other _____

Turnaround Time: 5 Days

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 2/27/2020 Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and cteidor@fando.com

Do Not Mail Hard Copy Report

Total # of Samples: 129

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise. Do not analyze samples 03 A to G unless 01 A to G or 02 A to G contains >1% asbestos. (2) (2)

Samples collected by: Kristina Snurkowski Date: 2/17/20 - 2/18/20 Time: 8:00 AM - 3:30 PM

Samples Sent by: Kristina Snurkowski Date: 2/21/2020 Time: 4:30 PM

Samples Received by: Unique McCoy Date: 2/22/20 Time: 10:09 AM

Shipped To: ☒ EMSL ☐ Other _____Method of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other _____

Justin Valle 2/24/20

D. R. R. 2/24/20

4/22 2-27-20 11:10 PM

062003961



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EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Attention: Carlos Texidor
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 510-4365

Fax:

Received Date: 02/22/2020 10:09 AM

Analysis Date: 02/24/2020

Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-01A 062003961-0001	1st floor - chapel - wall - White joint compound associated with gypsum board	White Non-Fibrous Homogeneous	3% Cellulose	95% Non-fibrous (Other)	2% Chrysotile
021720KS-01B 062003961-0002	1st floor - office area closet - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01C 062003961-0003	1st floor - stage room next to chapel - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01D 062003961-0004	2nd floor - mechanical room - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01E 062003961-0005	2nd floor - event room - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01F 062003961-0006	2nd floor - conference room - ceiling - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01G 062003961-0007	A-Side - stairway - ceiling - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-02A 062003961-0008	1st floor - chapel - wall - Gray gypsum board - ceilings and walls	Gray Non-Fibrous Homogeneous	5% Cellulose 4% Glass	91% Non-fibrous (Other)	None Detected
021720KS-02B 062003961-0009	1st floor - office area closet - wall - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	7% Cellulose	93% Non-fibrous (Other)	None Detected
021720KS-02C 062003961-0010	1st floor - storage room next to chapel - wall - Gray gypsum board - ceilings and walls	Gray Non-Fibrous Homogeneous	7% Cellulose	93% Non-fibrous (Other)	None Detected
021720KS-02D 062003961-0011	2nd floor - mechanical room - wall - Gray gypsum board - ceilings and walls	Gray Non-Fibrous Homogeneous	6% Cellulose	94% Non-fibrous (Other)	None Detected

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EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-02E 062003961-0012	2nd floor - event room - wall - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
021720KS-02F 062003961-0013	2nd floor - conference room - ceiling - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
021720KS-02G 062003961-0014	A-Side - stairway - ceiling - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	5% Cellulose 3% Glass	92% Non-fibrous (Other)	None Detected
021720KS-03A 062003961-0015	1st floor - chapel - wall - White joint compound and gray gypsum board (composite)	Gray/White Non-Fibrous Heterogeneous	5% Cellulose 2% Glass	93% Non-fibrous (Other)	<1% Chrysotile
021720KS-03B 062003961-0016	1st floor - office area closet - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (Other)	<1% Chrysotile
021720KS-03C 062003961-0017	1st floor - storage room next to chapel - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	6% Cellulose 4% Glass	90% Non-fibrous (Other)	<1% Chrysotile
021720KS-03D 062003961-0018	2nd floor - mechanical room - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
021720KS-03E 062003961-0019	2nd floor - event room - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
021720KS-03F 062003961-0020	2nd floor - conference room - ceiling - White joint compound and gray gypsum board (composite)	White/Beige Non-Fibrous Heterogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
021720KS-03G 062003961-0021	A-Side - stairway - ceiling - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	6% Cellulose	94% Non-fibrous (Other)	None Detected
021720KS-04A 062003961-0022	Second floor - stage room next to kitchen - White popcorn textured ceiling paint	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-04B 062003961-0023	Second floor - religious education classroom - White popcorn textured ceiling paint	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-04C 062003961-0024	Second floor - conference room - White popcorn textured ceiling paint	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-05A 062003961-0025	1st floor - closet outside main entry - Brown 6"x6" ceramic tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-05B 062003961-0026	1st floor - closet outside main entry - Brown 6"x6" ceramic tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-06A 062003961-0027	1st floor - closet outside main entry - Gray thinset associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-06B 062003961-0028	1st floor - closet outside main entry - Gray thinset associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-07A 062003961-0029	1st floor - closet outside main entry - Gray grout associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-07B 062003961-0030	1st floor - closet outside main entry - Gray grout associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
021720KS-08A 062003961-0031	1st floor - women's bathroom - Yellow and white 1"x1" ceramic floor tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-08B 062003961-0032	1st floor - women's bathroom - Yellow and white 1"x1" ceramic floor tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-09A 062003961-0033	1st floor - women's bathroom - Brown glue associated with yellow and white 1"x1" ceramic floor tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-09B 062003961-0034	1st floor - women's bathroom - Brown glue associated with yellow and white 1"x1" ceramic floor tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-10A 062003961-0035	1st floor - women's bathroom - Gray grout associated with yellow and white 1"x1" ceramic floor tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-10B 062003961-0036	1st floor - women's bathroom - Gray grout associated with yellow and white 1"x1" ceramic floor tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected

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EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-11A 062003961-0037	1st floor - women's bathroom - Yellow 4"x4" ceramic wall tile	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-11B 062003961-0038	1st floor - women's bathroom - Yellow 4"x4" ceramic wall tile	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-12A 062003961-0039	1st floor - women's bathroom - Brown glue associated with yellow 4"x4" ceramic wall tile	Brown Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
021720KS-12B 062003961-0040	1st floor - women's bathroom - Brown glue associated with yellow 4"x4" ceramic wall tile	Brown Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
021720KS-13A 062003961-0041	1st floor - office area closet - Yellow glue associated with blue and multicolor carpet	Yellow Non-Fibrous Homogeneous	2% Synthetic	98% Non-fibrous (Other)	None Detected
021720KS-13B 062003961-0042	1st floor - office area closet - Yellow glue associated with blue and multicolor carpet	Yellow Non-Fibrous Homogeneous	2% Synthetic	98% Non-fibrous (Other)	None Detected
021720KS-14A 062003961-0043	1st floor - storage room next to chapel - Yellow glue associated with brown carpet	Yellow Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-14B 062003961-0044	1st floor - storage room next to chapel - Yellow glue associated with brown carpet	Yellow Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
021720KS-15A 062003961-0045	1st floor - main entry - Warm gray 4" vinyl cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-15B 062003961-0046	1st floor - main entry - Warm gray 4" vinyl cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-16A 062003961-0047	1st floor - main entry - Tan glue associated with warm gray 4" vinyl cove base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-16B 062003961-0048	1st floor - main entry - Tan glue associated with warm gray 4" vinyl cove base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-17A 062003961-0049	1st floor - chapel - White 2'x2' suspended ceiling tile with pockets and pinholes pattern	Gray/White Fibrous Heterogeneous	45% Cellulose 15% Min. Wool	40% Non-fibrous (Other)	None Detected
021720KS-17B 062003961-0050	1st floor - office area - White 2'x2' suspended ceiling tile with pockets and pinholes pattern	Gray/White Fibrous Heterogeneous	50% Cellulose 10% Min. Wool	40% Non-fibrous (Other)	None Detected

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EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-18A 062003961-0051	1st floor - chapel - Tan glue on wall	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-18B 062003961-0052	1st floor - chapel - Tan glue on wall	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-19A 062003961-0053	1st floor - chapel - Yellow glue associated with brown and tan line pattern carpet	Yellow Non-Fibrous Homogeneous	11% Cellulose	89% Non-fibrous (Other)	None Detected
021720KS-19B 062003961-0054	1st floor - chapel - Yellow glue associated with brown and tan line pattern carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-20A 062003961-0055	1st floor - closet outside main entry - Fluffy white 2'x2' suspended ceiling tile	White Fibrous Homogeneous	20% Min. Wool	80% Non-fibrous (Other)	None Detected
021720KS-20B 062003961-0056	1st floor - closet outside main entry - Fluffy white 2'x2' suspended ceiling tile	White Fibrous Homogeneous	17% Min. Wool	83% Non-fibrous (Other)	None Detected
021720KS-21A 062003961-0057	1st floor - office area closet - Cool gray 4" vinyl cove base	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-21B 062003961-0058	1st floor - office area closet - Cool gray 4" vinyl cove base	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-22A 062003961-0059	1st floor - office area closet - Tan glue associated with cool gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous	<1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-22B 062003961-0060	1st floor - office area closet - Tan glue associated with cool gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-23A 062003961-0061	1st floor - closet outside main entry - White paper jacket associated with fiberglass pipe insulation	Tan/Silver Fibrous Homogeneous	57% Cellulose 36% Min. Wool	7% Non-fibrous (Other)	None Detected
021720KS-23B 062003961-0062	1st floor - closet outside main entry - White paper jacket associated with fiberglass pipe insulation	Tan/Silver Fibrous Homogeneous	58% Cellulose 37% Min. Wool	5% Non-fibrous (Other)	None Detected
021720KS-23C 062003961-0063	1st floor - closet outside main entry - White paper jacket associated with fiberglass pipe insulation	Tan/Silver Fibrous Homogeneous	51% Cellulose 36% Min. Wool	13% Non-fibrous (Other)	None Detected

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EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-24A 062003961-0064	1st floor - closet outside main entry - Concrete foundation	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-24B 062003961-0065	1st floor - office area closet - Concrete foundation	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-25A 062003961-0066	2nd floor - mechanical room - interior wall - Interior brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-25B 062003961-0067	B-Side - exterior wall by side entry - Exterior brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-26A 062003961-0068	2nd floor - mechanical room - interior wall - Gray mortar associated with brick wall	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-26B 062003961-0069	B-Side - exterior wall by side entry - Gray mortar associated with brick wall	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-27A 062003961-0070	B-Side - exterior wall by side entry - Red patch mortar associated with brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-27B 062003961-0071	C-Side - exterior wall - Red patch mortar associated with brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-28A 062003961-0072	2nd floor - kitchen - White multicolor accents 12"x12" vinyl floor tile	White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-28B 062003961-0073	2nd floor - loft above office area - White multicolor accents 12"x12" vinyl floor tile	White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-29A 062003961-0074	2nd floor - kitchen - Yellow glue associated with white with multicolor accents 12"x12" vinyl floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-29B 062003961-0075	2nd floor - loft above office area - Yellow glue associated with white with multicolor accents 12"x12" vinyl floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-30A 062003961-0076	2nd floor - kitchen - Dark gray 4" vinyl cove base	Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-30B 062003961-0077	2nd floor - kitchen - Dark gray 4" vinyl cove base	Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-31A <i>062003961-0078</i>	2nd floor - kitchen - Off-White glue associated with dark gray 4" vinyl cove base	White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-31B <i>062003961-0079</i>	2nd floor - kitchen - Off-White glue associated with dark gray 4" vinyl cove base	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-32A <i>062003961-0080</i>	1st floor - chapel - Tan 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-32B <i>062003961-0081</i>	2nd floor - wash room - Tan 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-33A <i>062003961-0082</i>	1st floor - chapel - Tan glue associated with tan 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-33B <i>062003961-0083</i>	2nd floor - wash room - Tan glue associated with tan 4" vinyl cove base	Brown/Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-34A <i>062003961-0084</i>	2nd floor - wash room - Off-White 4"x4" ceramic floor tile	Brown/White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-34B <i>062003961-0085</i>	2nd floor - wash room - Off-White 4"x4" ceramic floor tile	Brown/White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-35A <i>062003961-0086</i>	2nd floor - wash room - Gray thinset associated with off-white 4"x4" ceramic floor tile	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-35B <i>062003961-0087</i>	2nd floor - wash room - Gray thinset associated with off-white 4"x4" ceramic floor tile	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-36A <i>062003961-0088</i>	2nd floor - men's bathroom - White 2"x2" ceramic floor tile <i>Mastic associated with ceramic floor tile not included in analysis.</i>	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-36B <i>062003961-0089</i>	2nd floor - men's bathroom - White 2"x2" ceramic floor tile <i>Mastic associated with ceramic floor tile not included in analysis.</i>	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-37A <i>062003961-0090</i>	2nd floor - men's bathroom - Gray grout associated with white 2"x2" ceramic floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected



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Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
021720KS-37B 062003961-0091	2nd floor - men's bathroom - Gray grout associated with white 2"x2" ceramic floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-38A 062003961-0092	2nd floor - women's bathroom - Tan multicolor ceramic floor tile	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-38B 062003961-0093	2nd floor - women's bathroom - Tan multicolor ceramic floor tile	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-39A 062003961-0094	2nd floor - women's bathroom - Yellow glue associated with tan multicolor ceramic floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-39B 062003961-0095	2nd floor - women's bathroom - Yellow glue associated with tan multicolor ceramic floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-40A 062003961-0096	2nd floor - women's bathroom - Brown grout associated with tan multicolor ceramic floor tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-40B 062003961-0097	2nd floor - women's bathroom - Brown grout associated with tan multicolor ceramic floor tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-41A 062003961-0098	2nd floor - women's bathroom - Sand 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-41B 062003961-0099	2nd floor - women's bathroom - Sand 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-42A 062003961-0100	2nd floor - women's bathroom - Brown glue associated with sand 4" vinyl cove base	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-42B 062003961-0101	2nd floor - women's bathroom - Brown glue associated with sand 4" vinyl cove base	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-43A 062003961-0102	2nd floor - religious education classroom - Blueish gray 4" vinyl cove base	Gray/Blue Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-43B 062003961-0103	2nd floor - religious education classroom - Blueish gray 4" vinyl cove base	Gray/Blue Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected

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Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
021720KS-44A 062003961-0104	2nd floor - religious education classroom - Tan glue associated with blueish gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-44B 062003961-0105	2nd floor - religious education classroom - Tan glue associated with blueish gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-45A 062003961-0106	2nd floor - women's bathroom - White paper facing on fiberglass suspended ceiling tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-45B 062003961-0107	2nd floor - men's bathroom - White paper facing on fiberglass suspended ceiling tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-46A 062003961-0108	2nd floor - hallway - Off-White fabric wallpaper	White Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-46B 062003961-0109	2nd floor - hallway - Off-White fabric wallpaper	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-47A 062003961-0110	2nd floor - former castle bank office space - Yellow glue associated with gray carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-47B 062003961-0111	2nd floor - hallway - Yellow glue associated with gray carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-48A 062003961-0112	Type 2 door - interior caulking - Brown caulking associated with type 2 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-48B 062003961-0113	Type 2 door - exterior caulking - Brown caulking associated with type 2 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-49A 062003961-0114	Type 3 door - interior caulking - Dark gray caulking associated with type 3 door	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-49B 062003961-0115	Type 3 door - exterior caulking - Dark gray caulking associated with type 3 door	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-50A 062003961-0116	Type 4 door - exterior caulking - Light brown caulking associated with type 4 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-50B 062003961-0117	Type 4 door - exterior caulking - Light brown caulking associated with type 4 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 02/27/2020 23:13:50



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Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-51A 062003961-0118	Type 6 door - interior caulking - Dark brown caulking associated with type 6 door	Brown Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-51B 062003961-0119	Type 6 door - interior caulking - Dark brown caulking associated with type 6 door	Brown Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-52A 062003961-0120	Type 7 door - interior glazing - Light gray glazing associated with type 7 door	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-52B 062003961-0121	Type 7 door - interior glazing - Light gray glazing associated with type 7 door	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-53A 062003961-0122	Type 1 window - exterior caulking - A side - Gray caulking associated with type 1 window	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-53B 062003961-0123	Type 1 window - exterior caulking - C side - Gray caulking associated with type 1 window	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-54A 062003961-0124	Type 5 window - exterior caulking - C side - Brown caulking associated with type 5 window	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-54B 062003961-0125	Type 5 window - exterior caulking - C side - Brown caulking associated with type 5 window	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-55A 062003961-0126	Bank drive through roof where metal meets brick façade - Gray caulking associated with portico wall	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-55B 062003961-0127	Side entry portico where metal meets brick façade - Gray caulking associated with portico wall	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-56A 062003961-0128	A-Side - exterior by sidewalk - Light gray exterior horizontal joint caulking between building and sidewalk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-56B 062003961-0129	A-Side - exterior by sidewalk - Light gray exterior horizontal joint caulking between building and sidewalk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 02/27/2020 23:13:50



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Customer PO: 20179032.C10

Project ID:

Analyst(s)

Justin Valles (75)

Omatie Ramrattan-Scarallo (48)

Daniel Clarke, Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. 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 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. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. 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. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY NVLAP Lab Code 101048-10, CA ELAP 2339, NYS ELAP 11469

Initial report from: 02/27/2020 23:13:50



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EMSL Order: 062003961
Customer ID: ENVI54
Customer PO: 20179032.C10
Project ID:

Attention: Carlos Texidor
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146 Hartford Road
Manchester, CT 06040

Phone: (860) 510-4365
Fax:
Received Date: 02/22/2020 10:09 AM
Analysis Date: 02/27/2020
Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
021720KS-04A 062003961-0022	Second floor - stage room next to kitchen - White popcorn textured ceiling paint	Tan/White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-09A 062003961-0033	1st floor - women's bathroom - Brown glue associated with yellow and white 1"x1" ceramic floor tile	Brown Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-12A 062003961-0039	1st floor - women's bathroom - Brown glue associated with yellow 4"x4" ceramic wall tile	Brown Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-13A 062003961-0041	1st floor - office area closet - Yellow glue associated with blue and multicolor carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-14A 062003961-0043	1st floor - storage room next to chapel - Yellow glue associated with brown carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-15A 062003961-0045	1st floor - main entry - Warm gray 4" vinyl cove base	Gray Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-16A 062003961-0047	1st floor - main entry - Tan glue associated with warm gray 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-18A 062003961-0051	1st floor - chapel - Tan glue on wall	Tan Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-19A 062003961-0053	1st floor - chapel - Yellow glue associated with brown and tan line pattern carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-21A 062003961-0057	1st floor - office area closet - Cool gray 4" vinyl cove base	Gray Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-22A 062003961-0059	1st floor - office area closet - Tan glue associated with cool gray 4" vinyl cove base	Tan Fibrous Homogeneous	99.15 Other	None	0.85% Chrysotile

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from: 02/27/2020 23:13:44



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EMSL Order: 062003961
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Customer PO: 20179032.C10
Project ID:

Attention: Carlos Texidor
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146 Hartford Road
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Phone: (860) 510-4365
Fax:
Received Date: 02/22/2020 10:09 AM
Analysis Date: 02/27/2020
Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
021720KS-28A 062003961-0072	2nd floor - kitchen - White multicolor accents 12"x12" vinyl floor tile	White Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-29A 062003961-0074	2nd floor - kitchen - Yellow glue associated with white with multicolor accents 12"x12" vinyl floor tile	Yellow Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-30A 062003961-0076	2nd floor - kitchen - Dark gray 4" vinyl cove base	Black Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-31A 062003961-0078	2nd floor - kitchen - Off-White glue associated with dark gray 4" vinyl cove base	White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-32A 062003961-0080	1st floor - chapel - Tan 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-33A 062003961-0082	1st floor - chapel - Tan glue associated with tan 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-39A 062003961-0094	2nd floor - women's bathroom - Yellow glue associated with tan multicolor ceramic floor tile	Yellow Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-41A 062003961-0098	2nd floor - women's bathroom - Sand 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-42A 062003961-0100	2nd floor - women's bathroom - Brown glue associated with sand 4" vinyl cove base	Brown Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-43A 062003961-0102	2nd floor - religious education classroom - Blueish gray 4" vinyl cove base	Gray/Blue Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-44A 062003961-0104	2nd floor - religious education classroom - Tan glue associated with blueish gray 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

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Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from: 02/27/2020 23:13:44



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Phone: (860) 510-4365
Fax:
Received Date: 02/22/2020 10:09 AM
Analysis Date: 02/27/2020
Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
021720KS-46A 062003961-0108	2nd floor - hallway - Off-White fabric wallpaper	White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-47A 062003961-0110	2nd floor - former castle bank office space - Yellow glue associated with gray carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-48A 062003961-0112	Type 2 door - interior caulking - Brown caulking associated with type 2 door	Brown Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-49A 062003961-0114	Type 3 door - interior caulking - Dark gray caulking associated with type 3 door	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-50A 062003961-0116	Type 4 door - exterior caulking - Light brown caulking associated with type 4 door	Brown Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-51A 062003961-0118	Type 6 door - interior caulking - Dark brown caulking associated with type 6 door	Brown Fibrous Homogeneous	97.0 Other	None	3.0% Anthophyllite
021720KS-52A 062003961-0120	Type 7 door - interior glazing - Light gray glazing associated with type 7 door	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-53A 062003961-0122	Type 1 window - exterior caulking - A side - Gray caulking associated with type 1 window	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-54A 062003961-0124	Type 5 window - exterior caulking - C side - Brown caulking associated with type 5 window	Brown Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-55A 062003961-0126	Bank drive through roof where metal meets brick façade - Gray caulking associated with portico wall	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-56A 062003961-0128	A-Side - exterior by sidewalk - Light gray exterior horizontal joint caulking between building and sidewalk	Gray Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from: 02/27/2020 23:13:44



EMSL Analytical, Inc.

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EMSL Order: 062003961
Customer ID: ENVI54
Customer PO: 20179032.C10
Project ID:

Attention: Carlos Texidor
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146 Hartford Road
Manchester, CT 06040

Phone: (860) 510-4365

Fax:

Received Date: 02/22/2020 10:09 AM

Analysis Date: 02/27/2020

Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
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Analyst(s)

Keith McWilliams (33)

Daniel Clarke, Asbestos Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from: 02/27/2020 23:13:44



032119057

Date: 10/14/21

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Project Name: City of Meriden - 100 Hannover Street Project No. 20170932.C11 Task No.: 000500

Site Address: 100 Hannover Street, Meriden, CT Location: Roof and 2nd Floor Mech RM Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
101421KS-01A	Building C Side Louvres	Gray caulking associated with louvres
101421KS-01B	Building C Side Louvres	Gray caulking associated with louvres
101421KS-02A	Drive through canopy roof - Field	Black lap sealant associated with membrane
101421KS-02B	Drive through canopy roof - Field	Black lap sealant associated with membrane
101421KS-03A	Drive through canopy roof - Field	Black roofing membrane
101421KS-03B	Drive through canopy roof - Field	Black roofing membrane
101421KS-04A	Drive through canopy roof - Field	Brown fiberboard
101421KS-04B	Drive through canopy roof - Field	Brown fiberboard
101421KS-05A	Drive through canopy roof - Flashing	Black flashing paper
101421KS-05B	Drive through canopy roof - Flashing	Black flashing paper
101421KS-06A	Drive through canopy roof - Flashing	Black flashing cement
101421KS-06B	Drive through canopy roof - Flashing	Black flashing cement
101421KS-07A	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall
101421KS-07B	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall
101421KS-08A	Drive through canopy roof	Black caulking around roof drain
101421KS-08B	Drive through canopy roof	Black caulking around roof drain
101421KS-09A	Drive through canopy roof	Black tar around roof drain
101421KS-09B	Drive through canopy roof	Black tar around roof drain
101421KS-10A	Main building roof - Flashing	Black flashing up parapet wall
101421KS-10B	Main building roof - Flashing	Black flashing up parapet wall
101421KS-11A	Main building roof - Flashing	Black flashing cement up parapet wall
101421KS-11B	Main building roof - Flashing	Black flashing cement up parapet wall
101421KS-12A	Main building roof - Penetrations	Penetration flashing cement
101421KS-12B	Main building roof - Penetrations	Penetration flashing cement



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Phone (860) 646-2469

032119057

Page 2 of 3

Date: 10/14/21

Sample ID	Sample Location	Type of Material
101421KS-13A	Main building roof – Flashing	Black caulking at top of metal counter flashing
101421KS-13B	Main building roof – Flashing	Black caulking at top of metal counter flashing
101421KS-14A	Main building roof – Field	Black lap sealant associated with black membrane
101421KS-14B	Main building roof – Field	Black lap sealant associated with black membrane
101421KS-15A	Main building roof – Field	Black membrane
101421KS-15B	Main building roof – Field	Black membrane
101421KS-16A	Main building roof – Field	Gray paper associated with iso foam layers
101421KS-16B	Main building roof – Field	Gray paper associated with iso foam layers
101421KS-17A	Main building roof – Field	Brown fiberboard
101421KS-17B	Main building roof – Field	Brown fiberboard
101421KS-18A	Main building roof – Field	Black built up asphalt roofing
101421KS-18B	Main building roof – Field	Black built up asphalt roofing
101421KS-19A	Main building roof – Field	Brown paper
101421KS-19B	Main building roof – Field	Brown paper
101421KS-20A	Main building roof – Parapet Wall	Red terra cotta block mortar
101421KS-20B	Main building roof – Parapet Wall	Red terra cotta block mortar
101421KS-21A	Main building roof – Parapet Wall	Terra cotta parapet wall capstone
101421KS-21B	Main building roof – Parapet Wall	Terra cotta parapet wall capstone
101421KS-22A	Second floor mechanical room	Black flex connector associated with ductwork
101421KS-22B	Second floor mechanical room	Black flex connector associated with ductwork

Analysis Method: ☒ PLM ☐ TEM ☐ Other _____

Turnaround Time: PLM: 24 Hours TEM: 24 Hours

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 10/20/21 (PLM) / 10/21/21 (TEM). Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and ctexidor@fando.com

Do Not Mail Hard Copy Report

Total # of Samples: 44

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.



FUSS & O'NEILL

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002119057

Page 3 of 3

Date: 10/14/21

Samples collected by: Kristina Snurkowski Date: 10/14/21

Samples Sent by: Kristina Snurkowski Date: 10/18/21 Time: 4:30 PM

Samples Received by: Date: Time:

Shipped To: ☒ EMSL ☐ OtherMethod of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other

2021 OCT 19 AM 10:05

EMSL MATERIAL LAB
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10/19/21



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<http://www.EMSL.com> / manhattanlab@emsl.com

EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

Attention: Carlos Texidor
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Phone: (860) 510-4365

Fax:

Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-01A 032119057-0001	BUILDING C SIDE LOUVERS - GRAY CAULKING ASSOCIATED WITH LOUVERS	Gray Non-Fibrous Homogeneous	2% Fibrous_Other	40% Ca Carbonate 58.0% Non-fibrous (Other)	None Detected
10142KS-01B 032119057-0002	BUILDING C SIDE LOUVERS - GRAY CAULKING ASSOCIATED WITH LOUVERS	Brown Non-Fibrous Homogeneous	3% Fibrous_Other	25% Ca Carbonate 72.0% Non-fibrous (Other)	None Detected
10142KS-02A 032119057-0003	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH MEMBRANE	Black Non-Fibrous Homogeneous	3% Cellulose	7% Quartz 30% Ca Carbonate 5% Mica 55.0% Non-fibrous (Other)	None Detected
10142KS-02B 032119057-0004	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH MEMBRANE	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected
10142KS-03A 032119057-0005	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK ROOFING MEMBRANE	Black Non-Fibrous Homogeneous		5% Mica 10% Perlite 85.0% Non-fibrous (Other)	None Detected
10142KS-03B 032119057-0006	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK ROOFING MEMBRANE	Black Non-Fibrous Homogeneous		15% Ca Carbonate 85.0% Non-fibrous (Other)	None Detected
10142KS-04A 032119057-0007	DRIVE THROUGH CANOPY ROOF - FIELD - BROWN FIBERBOARD	Brown Fibrous Homogeneous	80% Cellulose	3% Quartz 7% Ca Carbonate 10.0% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET /
MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-04B 032119057-0008	DRIVE THROUGH CANOPY ROOF - FIELD - BROWN FIBERBOARD	Brown Fibrous Homogeneous	85% Cellulose	15.0% Non-fibrous (Other)	None Detected
10142KS-05A 032119057-0009	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING PAPER	Black Non-Fibrous Homogeneous	3% Cellulose	10% Quartz 7% Ca Carbonate 65.0% Non-fibrous (Other)	15% Chrysotile
10142KS-05B 032119057-0010	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING PAPER				Positive Stop (Not Analyzed)
10142KS-06A 032119057-0011	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING CEMENT	Black Fibrous Homogeneous	30% Cellulose 5% Glass	5% Quartz 10% Ca Carbonate 43.0% Non-fibrous (Other)	7% Chrysotile
10142KS-06B 032119057-0012	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING CEMENT				Positive Stop (Not Analyzed)
10142KS-07A 032119057-0013	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK CAULKING AT TOP OF COUNTER FLASHING FOR BRICK WALL	Black Non-Fibrous Homogeneous		5% Quartz 20% Ca Carbonate 75.0% Non-fibrous (Other)	None Detected
10142KS-07B 032119057-0014	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK CAULKING AT TOP OF COUNTER FLASHING FOR BRICK WALL	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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Customer PO: 20170932.C11

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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-08A 032119057-0015	DRIVE THROUGH CANOPY ROOF - BLACK CAULKING AROUND ROOF DRAIN	Black Non-Fibrous Homogeneous	2% Fibrous_Other	7% Quartz 35% Ca Carbonate 5% Mica 51.0% Non-fibrous (Other)	None Detected
10142KS-08B 032119057-0016	DRIVE THROUGH CANOPY ROOF - BLACK CAULKING AROUND ROOF DRAIN	Brown Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected
10142KS-09A 032119057-0017	DRIVE THROUGH CANOPY ROOF - BLACK TAR AROUND ROOF DRAIN	Black Non-Fibrous Homogeneous		3% Quartz 5% Ca Carbonate 85.0% Non-fibrous (Other)	7% Chrysotile
10142KS-09B 032119057-0018	DRIVE THROUGH CANOPY ROOF - BLACK TAR AROUND ROOF DRAIN				Positive Stop (Not Analyzed)
10142KS-10A 032119057-0019	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING UP PARAPET WALL	Black Fibrous Homogeneous		10% Quartz 75.0% Non-fibrous (Other)	15% Chrysotile
10142KS-10B 032119057-0020	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING UP PARAPET WALL				Positive Stop (Not Analyzed)
10142KS-11A 032119057-0021	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING CEMENT UP PARAPET WALL	Black Non-Fibrous Homogeneous		3.0% Quartz 5% Ca Carbonate 85.0% Non-fibrous (Other)	7% Chrysotile
10142KS-11B 032119057-0022	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING CEMENT UP PARAPET WALL				Positive Stop (Not Analyzed)

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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EMSL Order: 032119057

Customer ID: ENVI54

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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-12A 032119057-0023	MAIN BUILDING ROOF - PENETRATIONS - PENETRATION FLASHING CEMENT	Black Non-Fibrous Homogeneous	7% Cellulose	3% Quartz 25% Ca Carbonate 60.0% Non-fibrous (Other)	5% Chrysotile
10142KS-12B 032119057-0024	MAIN BUILDING ROOF - PENETRATIONS - PENETRATION FLASHING CEMENT				Positive Stop (Not Analyzed)
10142KS-13A 032119057-0025	MAIN BUILDING ROOF - FLASHING - BLACK CAULKING AT TOP OF METAL COUNTER FLASHING	Black Fibrous Homogeneous		20% Quartz 10% Ca Carbonate 65.0% Non-fibrous (Other)	5% Chrysotile
10142KS-13B 032119057-0026	MAIN BUILDING ROOF - FLASHING - BLACK CAULKING AT TOP OF METAL COUNTER FLASHING				Positive Stop (Not Analyzed)
10142KS-14A 032119057-0027	MAIN BUILDING ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH BLACK MEMBRANE	Black Non-Fibrous Homogeneous	7% Synthetic 5% Glass	3% Quartz 35% Ca Carbonate 50.0% Non-fibrous (Other)	None Detected
10142KS-14B 032119057-0028	MAIN BUILDING ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH BLACK MEMBRANE	Black Non-Fibrous Homogeneous	4% Cellulose	96.0% Non-fibrous (Other)	None Detected
10142KS-15A 032119057-0029	MAIN BUILDING ROOF - FIELD - BLACK MEMBRANE	Black Non-Fibrous Homogeneous	7% Synthetic 5% Glass	3% Quartz 30% Ca Carbonate 55.0% Non-fibrous (Other)	None Detected
10142KS-15B 032119057-0030	MAIN BUILDING ROOF - FIELD - BLACK MEMBRANE	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

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Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-16A 032119057-0031	MAIN BUILDING ROOF - FIELD - GRAY PAPER ASSOCIATE WITH ISO FOAM LAYERS	Black/Yellow Fibrous Heterogeneous	55% Cellulose 25% Glass	3% Quartz 7% Ca Carbonate 10.0% Non-fibrous (Other)	None Detected
10142KS-16B 032119057-0032	MAIN BUILDING ROOF - FIELD - GRAY PAPER ASSOCIATE WITH ISO FOAM LAYERS	Brown/Tan Fibrous Homogeneous	50% Cellulose 10% Glass	40.0% Non-fibrous (Other)	None Detected
10142KS-17A 032119057-0033	MAIN BUILDING ROOF - FIELD - BROWN FIBERBOARD	Brown/Black Fibrous Homogeneous	80% Cellulose	3% Quartz 7% Ca Carbonate 10.0% Non-fibrous (Other)	None Detected
10142KS-17B 032119057-0034	MAIN BUILDING ROOF - FIELD - BROWN FIBERBOARD	Brown Fibrous Homogeneous	90% Cellulose	10.0% Non-fibrous (Other)	None Detected
10142KS-18A 032119057-0035	MAIN BUILDING ROOF - FIELD - BLACK BUILT UP ASPHALT ROOFING	Black Non-Fibrous Homogeneous	35% Cellulose 5% Glass	10% Quartz 15% Ca Carbonate 35.0% Non-fibrous (Other)	None Detected
10142KS-18B 032119057-0036	MAIN BUILDING ROOF - FIELD - BLACK BUILT UP ASPHALT ROOFING	Black Non-Fibrous Homogeneous	10% Cellulose	90.0% Non-fibrous (Other)	None Detected
10142KS-19A 032119057-0037	MAIN BUILDING ROOF - FIELD - BROWN PAPER	Red Fibrous Homogeneous	65% Cellulose	5% Quartz 10% Ca Carbonate 20.0% Non-fibrous (Other)	<1% Chrysotile
10142KS-19B 032119057-0038	MAIN BUILDING ROOF - FIELD - BROWN PAPER	Brown/Black Non-Fibrous Homogeneous	20% Cellulose	80.0% Non-fibrous (Other)	None Detected
10142KS-20A 032119057-0039	MAIN BUILDING ROOF - PARAPET WALL - RED TERRACOTTA BLOCK MORTAR	Red/Black Non-Fibrous Homogeneous	3% Cellulose	25% Quartz 40% Ca Carbonate 5% Mica 27.0% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



EMSL Analytical, Inc.

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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

Attention: Carlos Texidor
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 510-4365

Fax:

Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-20B 032119057-0040	MAIN BUILDING ROOF - PARAPET WALL - RED TERRACOTTA BLOCK MORTAR	Brown Non-Fibrous Homogeneous		30% Quartz 30% Ca Carbonate 40.0% Non-fibrous (Other)	None Detected
10142KS-21A 032119057-0041	MAIN BUILDING ROOF - PARAPET WALL - TERRCOTTA PARAPET WALL CAPSTONE	Various Non-Fibrous Homogeneous		30% Quartz 10% Ca Carbonate 5% Mica 55.0% Non-fibrous (Other)	None Detected
10142KS-21B 032119057-0042	MAIN BUILDING ROOF - PARAPET WALL - TERRCOTTA PARAPET WALL CAPSTONE	Tan Non-Fibrous Homogeneous		30% Quartz 70.0% Non-fibrous (Other)	None Detected
10142KS-22A 032119057-0043	SECOND FLOOR MECHANICAL ROOM - BLACK FLEX CONNECTOR ASSOCIATED WITH DUCTWORK	Black Non-Fibrous Homogeneous	30% Glass	70.0% Non-fibrous (Other)	None Detected
10142KS-22B 032119057-0044	SECOND FLOOR MECHANICAL ROOM - BLACK FLEX CONNECTOR ASSOCIATED WITH DUCTWORK	Gray Fibrous Homogeneous	30% Glass	70.0% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

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146 Hartford Road
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Phone: (860) 510-4365

Fax:

Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET /
MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date: 10/19/2021

Sample Receipt Time: 10:05 AM

Analysis Completed Date: 10/22/2021

Analysis Completed Time: 12:34 AM

Analyst(s):

Ghaly Hemaya PLM (15)

Kerrie Gibson PLM (22)

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET /
MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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EMSL Order: 032119057
CustomerID: ENVI54
CustomerPO: 20170932.C11
ProjectID:

Attn: **Carlos Texidor**
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Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Received: 10/19/2021 10:05 AM
Analysis Date: 10/22/2021
Collected: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
10142KS-01A 032119057-0001	BUILDING C SIDE LOUVERS - GRAY CAULKING ASSOCIATED WITH LOUVERS	Gray Non-Fibrous Heterogeneous	99.52	None	0.48% Anthophyllite
10142KS-02A 032119057-0003	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-03A 032119057-0005	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK ROOFING MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-07A 032119057-0013	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK CAULKING AT TOP OF COUNTER FLASHING FOR BRICK WALL	Black Non-Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-08A 032119057-0015	DRIVE THROUGH CANOPY ROOF - BLACK CAULKING AROUND ROOF DRAIN	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-14A 032119057-0027	MAIN BUILDING ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH BLACK MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-15A 032119057-0029	MAIN BUILDING ROOF - FIELD - BLACK MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-18A 032119057-0035	MAIN BUILDING ROOF - FIELD - BLACK BUILT UP ASPHALT ROOFING	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY

Initial report from 10/22/2021 15:51:55

**EMSL Analytical, Inc.**

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EMSL Order: 032119057
CustomerID: ENVI54
CustomerPO: 20170932.C11
ProjectID:

Attn: **Carlos Texidor**
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146 Hartford Road
Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Received: 10/19/2021 10:05 AM
Analysis Date: 10/22/2021
Collected: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
10142KS-22A 032119057-0043	SECOND FLOOR MECHANICAL ROOM - BLACK FLEX CONNECTOR ASSOCIATED WITH DUCTWORK	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY

Initial report from 10/22/2021 15:51:55

**EMSL Analytical, Inc.**

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EMSL Order: 032119057
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ProjectID:

Attn: **Carlos Texidor**
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Received: 10/19/2021 10:05 AM
Analysis Date: 10/22/2021
Collected: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	10/19/2021	Sample Receipt Time:	10:05 AM
Analysis Completed Date:	10/22/2021	Analysis Completed Time:	3:38 PM

Analyst(s):

Venisha Lazarus-Barnes TEM EPA NOB (9)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY

Initial report from 10/22/2021 15:51:55



ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Project Name: City of Meriden - 100 Hannover Street Project No. 20170932.C11 Task No.: 000500

Site Address: 100 Hannover Street, Meriden, CT Location: Elevator Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
102121KS-01A	Elevator Car	Tan adhesive associated with tan carpet
102121KS-01B	Elevator Car	Tan adhesive associated with tan carpet
102121KS-02A	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02B	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02C	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall

Analysis Method: ☒ PLM ☐ TEM ☐ Other _____ Turnaround Time: PLM: 24 Hours TEM: 24 Hours

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 10/25/21. Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and ctexidor@fando.com Do Not Mail Hard Copy Report

Total # of Samples: 5

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.

Samples collected by: Kristina Snurkowski Date: 10/21/21

Samples Sent by: Kristina Snurkowski Date: 10/22/21 Time: 4:30 PM

Samples Received by: [Signature] 10:35 AM Date: 10/23/21 Time: [Signature]

Shipped To: ☒ EMSL ☐ Other _____Method of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other _____

2021 OCT 23 AM 10:35

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FX: 8139 2517 6383

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Fuss & O'Neill EMSL Customer No. ENV154

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Phone (860) 646-2469

Page 1 of 1

Date: 10/21/21

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Project Name: City of Meriden - 100 Hannover Street

Project No. 20170932.C11

Task No.: 000500

Site Address: 100 Hannover Street, Meriden, CT

Location: Elevator

Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
102121KS-01A	Elevator Car	Tan adhesive associated with tan carpet
102121KS-01B	Elevator Car	Tan adhesive associated with tan carpet
102121KS-02A	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02B	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02C	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall

Analysis Method: ☒ PLM ☐ TEM ☐ Other

Turnaround Time: PLM: 24 Hours TEM: 24 Hours

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 10/25/21. Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and ctexidor@fando.com

Do Not Mail Hard Copy Report

Total # of Samples: 5

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.

Samples collected by: Kristina Snurkowski Date: 10/21/21

Samples Sent by: Kristina Snurkowski Date: 10/22/21 Time: 4:30 PM

Samples Received by: [Signature] 10:35 AM Date: 10/23/21 Time: [Signature]

Shipped To: ☒ EMSL ☐ OtherMethod of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other

2021 OCT 23 AM 10:35

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FX: 8139 2517 6383

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10/25/21

Shunano
10/25/21



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http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order ID: 032119376
Customer ID: ENVI54
Customer PO: 21070932.C11
Project ID:

Attn: Carlos Texidor
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Collected: 10/21/2021
Received: 10/23/2021
Analyzed: 10/25/2021

Proj: 20170932.C11/ 000500/ CITY OF MERIDEN - 100 HANOVER STREET/ 100 HANNOVER STREET, MERIDEN, CT

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 102121KS-01A

Lab Sample ID: 032119376-0001

Sample Description: ELEVATOR CAR/TAN ADHESIVE ASSOCIATED WITH TAN CARPET

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/24/2021	Brown	4.0%	96.0%	None Detected	
TEM Grav. Reduction	10/24/2021	Brown	0.0%	100.0%	<0.1% Chrysotile	

Client Sample ID: 102121KS-01B

Lab Sample ID: 032119376-0002

Sample Description: ELEVATOR CAR/TAN ADHESIVE ASSOCIATED WITH TAN CARPET

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 102121KS-02A

Lab Sample ID: 032119376-0003

Sample Description: WALL OUTSIDE ELEVATOR SHAFT - MAIN ENTRY/WHITE JOINT COMPOUND (OR SKIM COAT PLASTER) APPLIED OVER CMU BLOCK WALL

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/24/2021	White	0.0%	100.0%	None Detected	

Client Sample ID: 102121KS-02B

Lab Sample ID: 032119376-0004

Sample Description: WALL OUTSIDE ELEVATOR SHAFT - MAIN ENTRY/WHITE JOINT COMPOUND (OR SKIM COAT PLASTER) APPLIED OVER CMU BLOCK WALL

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/24/2021	White	0.0%	100.0%	None Detected	

Client Sample ID: 102121KS-02C

Lab Sample ID: 032119376-0005

Sample Description: WALL OUTSIDE ELEVATOR SHAFT - MAIN ENTRY/WHITE JOINT COMPOUND (OR SKIM COAT PLASTER) APPLIED OVER CMU BLOCK WALL

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Gray/White	0.0%	100.0%	None Detected	



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EMSL Order ID: 032119376
Customer ID: ENVI54
Customer PO: 21070932.C11
Project ID:

Attn: Carlos Texidor
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Collected: 10/21/2021
Received: 10/23/2021
Analyzed: 10/25/2021

Proj: 20170932.C11/ 000500/ CITY OF MERIDEN - 100 HANOVER STREET/ 100 HANNOVER STREET, MERIDEN, CT

The samples in this report were submitted for asbestos bulk analysis. The reference number for these samples is the Order ID above. Please use this reference number when calling about these samples.

Sample Receipt Date: 10/23/2021

Sample Receipt Time: 10:35 am

Analysis Completed Date: 10/25/2021

Analysis Completed Time: 9:51 am

Analyst(s):

Angelica Serrano PLM (2)

Isaac Mendez TEM Grav. Reduction (1)

Tiquasha Thompson PLM (3)

Reviewed and approved by:

James Hall, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Appendix D

Site Photographs



Building Exterior – B Side



Building Exterior – A Side



Exterior – D Side



Main Entry



Exterior – C Side



Chapel/Service area



Storage room adjacent to service area



Women's bathroom 1st floor



Men's Bathroom 1st floor



Main entry area



1st floor hallway



1st floor electrical room



1st floor closet



1st floor mechanical room



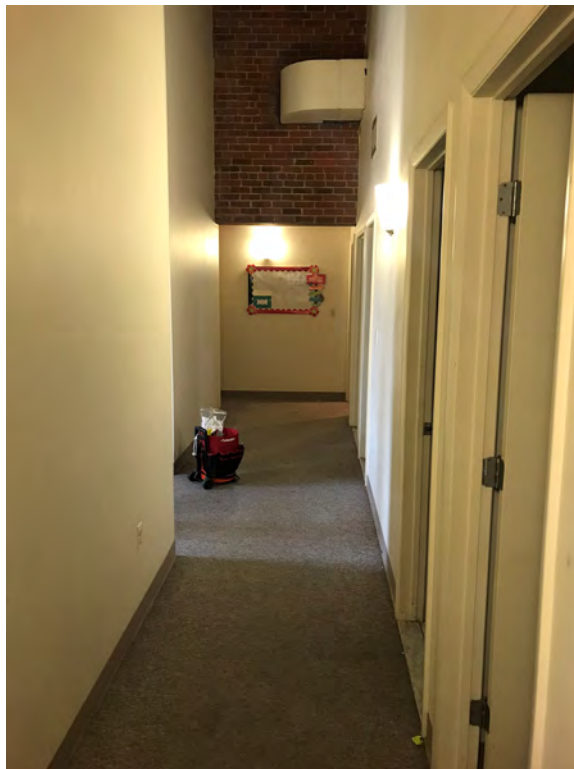
1st floor office area



1st floor office



2nd floor event room



2nd floor hallway



2nd floor kitchen



2nd floor small storage room of kitchen



2nd floor large storage room



2nd floor wash room



2nd floor men's bathroom



2nd floor women's bathroom



2nd floor HVAC mechanical room



2nd floor former bank office space



2nd floor former bank office area – additional view



2nd floor ceiling



2nd floor classroom



2nd floor office



2nd floor conference room



2nd floor large classroom area



2nd floor loft space



Attic space



Attic space



Gray caulking associated with louvres



Drive through roof



Main building roof



Additional view of roof



Main building roof metal flashing (termination bar) caulking



Concrete coring in main entry



Core hole completed



Plastic vapor barrier below foundation (none suspected)



Main entry coring location after patch and clean up

Appendix E

XRF Lead Determination Field Data Sheets

XRF LEAD DETERMINATION FIELD DATA SHEET

Inspector Name: Kristina Snurkowski Inspector License #: 2253

Date: 2/17/2020 XRF Model: RMD or Viken Serial: 2170

Project Name: 100 Hanover Street - City of Meriden Project Number: 20170932, C10
TASK 530

Address: 100 Hanover St, Meriden Project PM: Carlos Texidor
XRF Calibration Check-RMD (0.7 to 1.3 mg/cm² inclusive)

	Hour	First Reading	Second Reading	Third Reading	Average
First Check	0850	0.9	1.0	1.0	1.0
Second Check	1232	0.9	0.9	0.9	0.9
Third Check	1528	0.9	0.9	1.0	0.9
Fourth Check					

Side	Surface/Component	Substrate/Color	XRF Reading	Positive (✓)	Comments/Notes
D	wall	S / green	0.1		Entry to chapel ↓
A	window frame	M / Black	0.3		
A	window sill	↓	0.3		
-	floor	Ceramic / Brown	0.2		
B	Door frame	M / Black	0.1		
B	Door	m / Black	0.3		Chapel ↓
A	Wall	B / white	-0.2		
A	wall	S / white	0.5		
D	Door to Storage	m / white	0.2		Main Entry ↓
D	Door frame to Storage	↓	0.4		
B	wall	S / white	0.4		
C	wall	S / green	0.4		Office area ↓
C	Door to electrical	m / white	0.3		
C	Door frame to electrical	↓	0.1		
B	wall	S / white	0.5		Office area ↓
B	Door to main entry	M / white	0.3		

* Substrate Type: Metal = M, Wood = W, Plaster = P, Sheetrock = S, Concrete = C, Brick = B
N/A: Not Accessible; N/C: Not Coated; COV: Covered; VR - Vinyl Replacement

Side	Surface/Component	Substrate/Color	XRF Reading	Positive (✓)	Comments/Notes
D	wall	S/white	6.2		Office area
A	wall upper	S/white	0.3		Bathroom off office
A	wall lower	Ceramic/yellow	-0.5		
-	floor	↓	6.2		
A	Door to bathroom	W/Brown	0.2		
A	Door to bath-frame	M/white	0.2		
A	wall	S/white	6.3		Stairway (c side)
-	ceiling	↓	0.2		
-	floor	C/gray	0.1		
-	hand rail	M/black	0.2		
A	wall	S/white	0.2		2nd Fl Event Rm
-	ceiling	W/brown	0.0		
-	stairs to loft	W/white	0.0		
-	bannister supports	↓	0.0		
-	bannister	W/brown	-0.1		
-	column support	W/white	0.3		
A	Wall	S/white	0.1		Second floor Hall
A	Window	M/brown	0.1		
B	Elevator Door	M/white	0.2		
B	Elevator Door frame	↓	0.1		
C	Door to bathroom	W/Brown	-0.1		
E	Door frame	M/white	0.0		
C	Door to Castle bank	W/white	0.1		
C	Door frame	↓	-0.1		
A	Door to stairway	M/white	0.2		
A	Door frame	↓	0.1		
B	Wall	S/white	6.0		Castle Bank area
-	ceiling	W/Brown	0.2		
A	Door	W/white	0.0		
A	Door frame	↓	-0.1		
-	Bannister	W/Brown	0.2		

* Substrate Type: Metal = M, Wood = W, Plaster = P, Sheetrock = S, Concrete = C, Brick = B
N/A: Not Accessible; N/C: Not Coated; COV: Covered; VR - Vinyl Replacement



Q:\EnviroScience\Admin\FORMS\Lead\XRF\HQ\XRF Lead Determination Field Data Sheets_20180522.docx

Appendix F

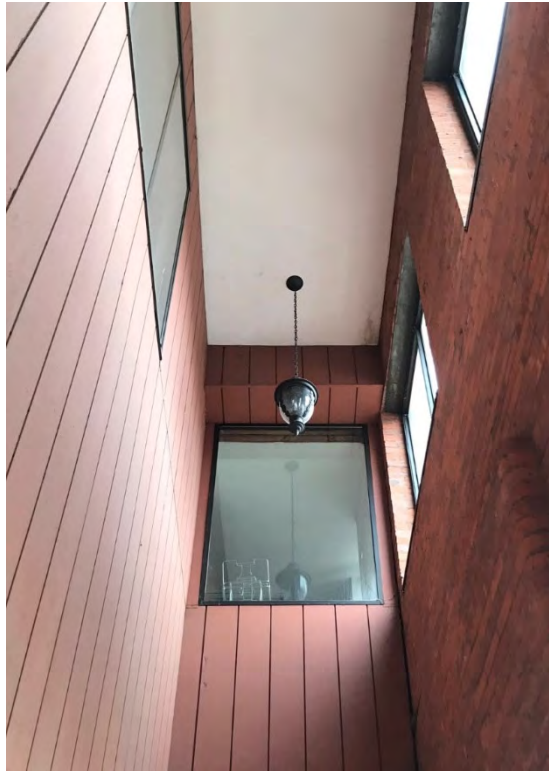
Door and Window Types



Type 1 Window: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 2 Window: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 3 Window: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 4 Windows: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 5 Windows: Brown Caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 1 Doors: No caulking or glazing observed



Type 2 Door: Brown caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 3 Door: Dark gray caulking: Non asbestos, Presumed PCBs >50 PPM (same caulking on Type 5 Door); No glazing observed



Type 4 Door: Light brown caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 5 Door: Dark Gray Caulking; Non asbestos, Presumed PCBs >50 PPM (same caulking as Type 3 Door); No glazing observed



Type 6 Door: Dark brown caulking; 3% Asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 7 Door: No caulking; Light gray glazing: Presumed PCBs >50 PPM



Type 8 Door: No caulking observed



Type 9 Door: No caulking observed



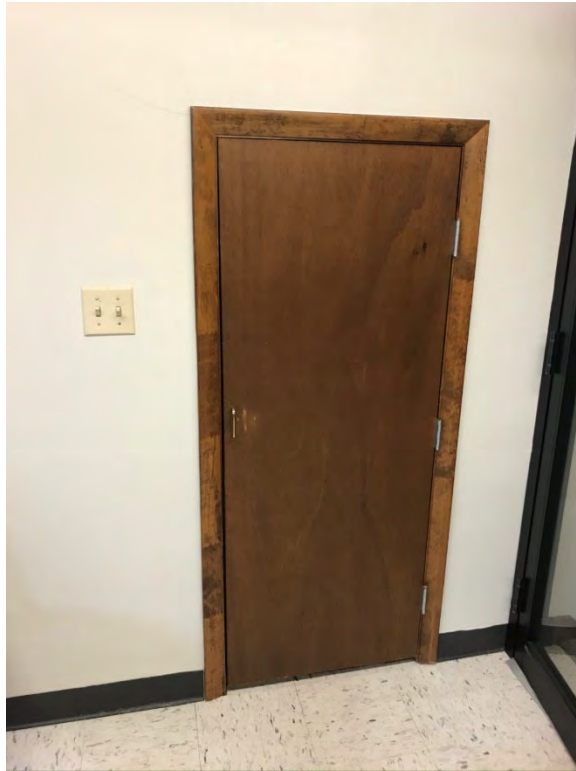
Type 10 Door: No caulking or glazing observed



Type 11 Door: No caulking observed



Type 12 Door (Right): No caulking or glazing observed



Type 13 Door: No caulking observed

Limited Asbestos Building Materials Inspection

Inspection Date: October 19, 2021
Former Powerhouse
104 Butler Street, Meriden, Connecticut

City of Meriden
Meriden, Connecticut

December 1, 2021



FUSS & O'NEILL

146 Hartford Road
Manchester, CT 06040



FUSS & O'NEILL

February 8, 2022

Mr. Brian Ennis, P.E.
Associate City Engineer
City of Meriden
City Hall, Room 210
142 East Main Street
Meriden, CT 06450-8022

Re: Limited Asbestos Building Materials Inspection
Former Powerhouse Associated with Factory H
104 Butler Street, Meriden, Connecticut
Fuss & O'Neill Project No. 20170932.C11

Dear Mr. Ennis:

Enclosed is the report for the limited asbestos building materials inspection conducted in response to the proposed demolition for the abandoned former powerhouse building located at 104 Butler Street, Meriden, Connecticut (the "Site"). The work was conducted for the City of Meriden (the "Client").

The services were performed on October 19, 2021 by a Fuss & O'Neill, Inc. licensed inspector and included a limited asbestos-containing material (ACM) inspection. The information summarized in this report is for the above-mentioned materials only. The work was performed in accordance with our written proposal dated April 30, 2021.

If you should have any questions regarding the contents of this report, please do not hesitate to contact me at (860) 646-2469, extension 5570. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Carlos Texidor
Associate

146 Hartford Road
Manchester, CT
06040
t 860.646.2469
800.286.2469
f 860.533.5143

www.fando.com

California
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Enclosure

Table of Contents

Limited Asbestos Building Materials Inspection Report 104 Butler Street, Meriden, Connecticut City of Meriden

1	Introduction	1
1.1	Building and Mechanical System Description.....	1
2	Asbestos Inspection	1
2.1	Methodology.....	2
2.2	Results	4
2.3	Discussion	4
2.4	Conclusions and Recommendations.....	5

Tables

End of Report

1. Summary of Suspect Asbestos-Containing Materials
2. Summary of Identified and Assumed Asbestos-Containing Materials

Figures

End of Report

Figure 1: Site Location

Figure 2: Site Layout

Appendices

End of Report

APPENDIX A	LIMITATIONS
APPENDIX B	INSPECTOR LICENSE AND ACCREDITATION
APPENDIX C	ASBESTOS LABORATORY REPORT AND CHAIN OF CUSTODY FORM
APPENDIX D	SITE PHOTOGRAPHS

1 Introduction

On October 19, 2021, Fuss & O'Neill, Inc. (Fuss & O'Neill) representative Kristina Snurkowski performed a limited asbestos building materials inspection for proposed at the former powerhouse building located at 104 Butler Street, Meriden, Connecticut (the "Site"). The work was conducted for the City of Meriden (the "Client") in accordance with our written proposal dated April 30, 2021, and is subject to the limitations included in *Appendix A*.

This limited asbestos-containing material (ACM) inspection was performed in response to the proposed demolition activities and included the interior and exterior of the building. Due to safety concerns or accessibility issues, some of the materials in the building could not be accessed during the inspection. These materials will be presumed ACM. Specific areas that were not inspected include the following:

- Beneath the concrete foundation (Could not be accessed with coring equipment at the time of the inspection due to logistics of getting equipment to the building, which is difficult to access and has no power);
- Concrete foundation walls (Ground was frozen at the time of the inspection. It is possible that foundation walls have spray applied waterproofing, especially on the tank vault.);
- Roof Flashing (Due to the roof integrity being compromised and safety concerns regarding the building catwalks, the flashing could not be sampled.);
- Tank vault (Due to safety concerns, the tank vault could not be accessed during the inspection. Visible materials observed from above have been presumed to contain asbestos.);
- Boiler ductwork (Material could not be accessed due to safety concerns); and
- Gaskets between burners and boilers (Material could not be accessed because the burners are attached and could not be removed during the inspection).

1.1 Building and Mechanical System Description

The building structure includes two stories with no basement. The history of the building is unknown, but it seems to have served as a powerhouse for the former Factory H structure located across Harbor Brook. The building appears to have been abandoned for some time. Two boilers, presumably heated by oil, are located on the second floor of the building. What appears to be a tank vault is located on the east side of the building. The tank vault was inaccessible during the inspection due to safety concerns.

Refer to *Figure 1* for the Site Location and *Figure 2* for the Site Layout.

2 Asbestos Inspection

On October 19, 2021, Ms. Kristina Snurkowski of Fuss & O'Neill conducted the limited inspection. Ms. Snurkowski is a State of Connecticut Department of Public Health - licensed Asbestos Inspector. Refer to *Appendix B* for the Asbestos Inspector license and accreditation.

2.1 Methodology

The limited inspection was conducted by visually inspecting for suspect ACM and touching each of the suspect materials. The suspect materials were categorized into three U.S. Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) groups: friable and non-friable Category I and Category II type ACM.

- A Friable Material is defined as material that contains greater than 1 percent ($> 1\%$) asbestos that when dry can be crumbled, pulverized, or reduced to powder by hand pressure.
- A Category I Non-Friable Material refers to material that contains $> 1\%$ asbestos (i.e., packings, gaskets, resilient floor coverings, and asphalt roofing products) that when dry cannot be crumbled, pulverized, or reduced to powder by hand pressure.
- A Category II Non-Friable Material refers to any non-friable material excluding Category I materials that contain $> 1\%$ asbestos that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

The suspect ACM were also categorized into their applications including Thermal System Insulation (TSI), Surfacing ACM (S), and Miscellaneous ACM (M). TSI includes those materials used to prevent heat loss/gain or water condensation on mechanical systems. Examples of TSI are pipe insulation, boiler insulation, duct insulation, and mudded pipe fitting insulations. Surfacing ACM includes those ACM that are applied by spray, trowel, or otherwise applied to an existing surface. Surfacing ACM is commonly used for fireproofing, decorative, and acoustical applications. Miscellaneous materials include those ACM not listed as thermal or surfacing, such as linoleum, vinyl asbestos flooring, ceiling tiles, caulking, glues, construction adhesives, etc.

The EPA recommends collecting suspect ACM samples in a manner sufficient to determine asbestos content and to segregate each suspect type of homogeneous (similar in color, texture, and date of application) materials. The EPA NESHAP regulation does not specifically identify a minimum number of samples to be collected for each homogeneous material, but the NESHAP regulation does recommend the use of sampling protocols included in Title 40 CFR, Part 763, Subpart E: Asbestos Hazard Emergency Response Act (AHERA).

The EPA AHERA regulation requires a specific number of samples be collected based on the type of material and quantity present. This regulation includes the following protocol:

1. Surfacing Materials (S) (i.e., plasters, spray-applied fireproofings, etc.) must be collected in a randomly distributed manner representing each homogeneous area based on the overall quantity represented by the sampling as follows:
 - a. Three (3) samples collected from each homogeneous area that is less than or equal to 1,000 square feet.
 - b. Five (5) samples collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.
 - c. Seven (7) samples collected from each homogeneous area that is greater than 5,000 square feet.

2. Thermal System Insulation (TSI) (i.e., pipe insulations, tank insulations, etc.) must be collected in a randomly distributed manner representing each homogeneous area. Three (3) samples must be collected from each material. Also, a minimum of one (1) sample of any patching materials applied to TSI presuming the patched area is less than 6 linear or square feet should be collected.
3. Miscellaneous materials (M) (i.e., floor tile, gaskets, construction mastics, etc.) should have a minimum of two (2) samples collected for each type of homogeneous material. Sample collection was conducted in a manner sufficient to determine asbestos content of the homogeneous material as determined by the inspector.

The inspector collected samples of those suspect ACM anticipated to be disturbed by the proposed demolition activities and prepared a proper chain of custody form for transmission of the samples to EMSL Analytical, Inc. for analysis. EMSL is a State of Connecticut-licensed and American Industrial Hygiene Association (AIHA)-accredited asbestos laboratory. The sample locations, material type, sample identification, and asbestos content are identified by bulk sample analysis in *Table 1* attached hereto. Suspect ACM not listed in the table that may be identified at a later date at the Site, should be assumed to be ACM until sample collection and analysis indicate otherwise. Initial asbestos sample analysis was conducted using the EPA Interim Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116) via Polarized Light Microscopy with Dispersion Staining (PLM/DS).

If samples of suspect materials could not be collected or were inaccessible but observed elsewhere, these materials were assumed to contain asbestos and the inspectors' approximated quantities. The roof was not included in the scope of work for this inspection, however, large sections of the roof have fallen through in the main building, so that material was able to be sampled. The main building roof was observed to be built up asphalt roofing and all roofing layers were sampled. However, the roof flashing was not accessible due to safety concerns as the roof is not structurally sound. Additionally, the integrity of the vault roof could not be assessed, and it was assumed to also not be sound. Therefore, all materials on the vault roof and the flashing of the main building roof have been presumed to contain asbestos. Limited destructive investigations were conducted at the Site to observe concealed areas and materials. These investigations included:

- Within the boilers;
- Behind the brick façade; and
- Under the concrete windowsills.

The following areas and materials were not accessible during the inspection:

- Beneath the concrete foundation;
- Concrete foundation walls;
- Roof flashing;
- Tank vault;
- Boiler ductwork; and
- Gaskets between burners and boilers.

Subsurface investigations including, but not limited to, concrete foundations were not performed. Also, Fuss & O'Neill did not conduct subsurface investigations to identify suspect cementitious pipe or other subgrade features throughout the Site. Please note that we believe there is one or more tunnel leading from the building to Factory H on the other side of Harbor Brook. The tunnel may contain additional hazardous materials. A supplemental inspection should be scheduled if the tunnel will be impacted by the project.

2.2 Results

Utilizing the EPA protocol and criteria, the following materials were determined to contain asbestos:

- Flange gaskets;
- White rope boiler door gaskets;
- Gray boiler door cement;
- Light gray fibrous insulation on tanks mounted above boilers;
- Red coating on boiler bricks;
- White rope associated with boilers;
- White electrical wire fabric wrap; and
- Black electrical wire fabric wrap

The following materials were assumed to contain asbestos but could not be inspected and sampled due to the limitations noted:

- Main roof flashing;
- Black coating on wall of tank vault;
- Tank vault roof;
- Gasket between boiler and burners (Assumed Present);
- Boiler ductwork seam sealant (Assumed Present);
- Spray applied water/damp proofing on foundation walls (Assumed Present);
- Vapor Barrier Beneath Foundation (Assumed Present).

Refer to *Table 1* for a complete list of ACM and non-ACM sampled as part of this limited inspection. Refer to *Table 2* attached hereto for the identified and assumed ACM inventory. Refer to *Appendix C* for the asbestos laboratory report and chain of custody form. Refer to *Appendix D* for Site photographs.

2.3 Discussion

The EPA and the Occupational Safety and Health Administration (OSHA) define a material that contains greater than one percent ($> 1\%$) asbestos, utilizing PLM/DS, as being an ACM. The CTDPH defines any material that contains equal to or greater than one percent ($\geq 1\%$) asbestos, utilizing PLM/DS, as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos.

Suspect ACM not identified during this limited inspection should be presumed to contain asbestos until sample collection and laboratory analysis indicate otherwise.

Additionally, the EPA has suggested that materials that are non-friable organically bound (NOB) materials (e.g., asphaltic-based materials, adhesives, etc.) are recommended for further confirmatory analysis utilizing Transmission Electron Microscopy (TEM). One of the collected samples were recommended to be analyzed by TEM. The results of TEM analysis are denoted in *Table 1*.

2.4 Conclusions and Recommendations

Based on visual observations, sample collection, and laboratory analysis, asbestos has been identified in some of the materials sampled at the Site.

Prior to disturbance, ACM that would likely be impacted by the proposed demolition activities must first be abated by a state-licensed Asbestos Abatement Contractor. This is a requirement of CTDPH, and EPA NESHAP regulations governing asbestos abatement.


Due to the inability to effectively separate some types of multi-layered ACM (e.g., cloth on electrical wire, coating on brick, etc.) from non-ACM, these materials are considered asbestos-contaminated and must be managed as ACM for the purposes of removal and disposal.

Fuss & O'Neill recommends that a technical specification be developed as part of demolition plans for the Site.

This report is not intended to be utilized as a bidding document or as a project specification document. The report is designed to aid the building owner, construction manager, general contractors, and asbestos abatement contractors in locating identified and assumed ACM and material containing <1% asbestos.

Report prepared by Environmental Technician, Kristina Snurkowski.

Reviewed by:



Carlos Texidor
Associate

Tables

Table 1
Summary of Suspect Asbestos-Containing Materials

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
101921KS-01A	Ground Floor	Gasket associated with 3" pipe	35% Chrysotile	PLM
101921KS-01B	Ground Floor	Gasket associated with 3" pipe	NA/Pos Stop	-
101921KS-02A	Second Floor	Gasket associated with 6" pipe	45% Chrysotile	PLM
101921KS-02B	Second Floor	Gasket associated with 6" pipe	NA/Pos Stop	-
101921KS-03A	Second Floor	Gasket associated with 12" pipe	30% Chrysotile	PLM
101921KS-03B	Second Floor	Gasket associated with 12" pipe	NA/Pos Stop	-
101921KS-04A	Second Floor	Square gasket associated with Dean Bros equipment	40% Chrysotile	PLM
101921KS-04B	Second Floor	Square gasket associated with Dean Bros equipment	NA/Pos Stop	-
101921KS-05A	Second Floor	Red brick of boilers	ND	PLM
101921KS-05B	Second Floor	Red brick of boilers	ND	PLM
101921KS-06A	Second Floor	Gray mortar for bricks of boilers	ND	PLM
101921KS-06B	Second Floor	Gray mortar for bricks of boilers	ND	PLM
101921KS-07A	Second Floor	Tan sand or degraded mortar behind brick	ND	PLM
101921KS-07B	Second Floor	Tan sand or degraded mortar behind brick	ND	PLM
101921KS-07C	Second Floor	Tan sand or degraded mortar behind brick	ND	PLM
101921KS-08A	Second Floor	Tan fire brick	ND	PLM
101921KS-08B	Second Floor	Tan fire brick	ND	PLM
101921KS-09A	Second Floor	White rope boiler door gasket	60% Chrysotile	PLM
101921KS-09B	Second Floor	White rope boiler door gasket	NA/Pos Stop	-
101921KS-09C	Second Floor	White rope boiler door gasket	NA/Pos Stop	-
101921KS-10A	Second Floor	Gray boiler door cement	10% Chrysotile	PLM
101921KS-10B	Second Floor	Gray boiler door cement	NA/Pos Stop	-
101921KS-10C	Second Floor	Gray boiler door cement	NA/Pos Stop	-
101921KS-11A	Second Floor- From Catwalk	White fabric tank jacket	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
101921KS-11B	Second Floor from Catwalk	White fabric tank jacket	ND	PLM
101921KS-11C	Second Floor from Catwalk	White fabric tank jacket	ND	PLM
101921KS-12A	Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers	30% Chrysotile	PLM
101921KS-12B	Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers	NA/Pos Stop	PLM
101921KS-12C	Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers	NA/Pos Stop	PLM
101921KS-13A	Second Floor	Red coating on boiler bricks	10% Chrysotile	PLM
101921KS-13B	Second Floor	Red coating on boiler bricks	NA/Pos Stop	PLM
101921KS-13C	Second Floor	Red coating on boiler bricks	NA/Pos Stop	PLM
101921KS-14A	Second Floor from Catwalk	White rope associated with boilers	60% Chrysotile	PLM
101921KS-14B	Second Floor from Catwalk	White rope associated with boilers	NA/Pos Stop	PLM
101921KS-14C	Second Floor from Catwalk	White rope associated with boilers	NA/Pos Stop	PLM
101921KS-15A	Ground Floor	White electrical wire fabric wrap	22% Chrysotile	PLM
101921KS-15B	Second Floor	White electrical wire fabric wrap	NA/Pos Stop	PLM
101921KS-15C	Second Floor	White electrical wire fabric wrap	NA/Pos Stop	PLM
101921KS-16A	Second Floor	Black electrical wire fabric wrap	ND	PLM
101921KS-16B	Second Floor	Black electrical wire fabric wrap	ND	PLM
101921KS-16C	Second Floor	Black electrical wire fabric wrap	35% Chrysotile	PLM
101921KS-17A	Second floor electrical box	Tan paper in electrical box	ND	PLM
101921KS-17B	Second floor electrical box	Tan paper in electrical box	ND	PLM
101921KS-18A	Fallen into second floor	Black asphaltic layered roofing	ND/ND	PLM/TEM
101921KS-18B	Fallen into second floor	Black asphaltic layered roofing	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
101921KS-18C	Fallen into second floor	Black asphaltic layered roofing	ND	PLM

NA/Pos Stop = Not Analyzed/Positive Stop

ND = None Detected

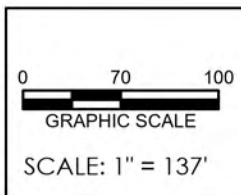
Table 2
Summary of Identified and Assumed Asbestos-Containing Materials Inventory

Location	Material Type	Asbestos Content	Estimated Total Quantity	Comments
Main Building Roof	Roof Flashing	Assumed ACM	250 LF	Visible attached to parapet wall but inaccessible during the inspection due to safety concerns.
Tank Vault	Tank vault roof	Assumed ACM	1,000 SF	Visible but inaccessible due to safety concerns.
Beneath Concrete Slab	Vapor Barrier Below Concrete Slab	Assumed ACM	3,876 SF	Assumed present.
Exterior foundation walls	Spray applied water/damp proofing on foundation walls	Assumed ACM	1,800 SF	Assumed present around foundation walls and between tank vault and main building.
Tank Vault	Black coating on wall of tank vault;	Assumed ACM	50 SF	Visible from above. Additional material may be present beyond what was visible.
Second Floor, West Side	Boiler ductwork seam sealant (Assumed Present)	Assumed ACM	120 LF	Ductwork observed but presence of seam sealant could not be verified due to safety concerns.
Boilers	Gasket between burner and boiler	Assumed ACM	2 EA	Assumed present. Burner will need to be disconnected to access.
Ground Floor	Gasket associated with 3" pipe	35% Chrysotile	20 EA	-
Second Floor	Gasket associated with 6" pipe	45% Chrysotile	20 EA	-
Second Floor	Gasket associated with 12" pipe	30% Chrysotile	25 EA	-

Location	Material Type	Asbestos Content	Estimated Total Quantity	Comments
Second Floor	Square gasket associated with Dean Bros equipment	40% Chrysotile	10 EA	-
Second Floor	White rope boiler door gasket	60% Chrysotile	12 EA	Small access doors to boilers
Second Floor	Gray boiler door cement	10% Chrysotile	12 EA	
Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers	30% Chrysotile	4 Tanks	Significantly Damaged
Second Floor	Red coating on boiler bricks	10% Chrysotile	2 Boilers, 8,284 SF x 2 = 15,588 SF	Significantly Damaged
Second Floor from Catwalk	White rope associated with boilers	60% Chrysotile	2 Boilers, 120 LF	-
Ground Floor	White electrical wire fabric wrap	22% Chrysotile	Throughout, Assumed ~300 LF	Materials runs within walls and may be hard to access.
Second Floor	Black electrical wire fabric wrap	35% Chrysotile	Throughout, Assumed ~300 LF	

LF = Linear Feet; SF = Square Feet; EA = Each

Figures



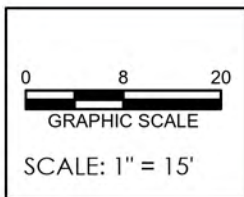
City of Meriden
SITE LOCATION MAP
104 Butler Street

Meriden

Connecticut

PROJ No.: 20170932.C11
DATE: Jan 2022

FIGURE 1



City of Meriden
SITE PLAN
104 Butler Street

Meriden

Connecticut

PROJ No.: 20170932.C11

DATE: Jan 2022

FIGURE 2

Appendix A

Limitations

APPENDIX A

Site: 104 Butler Street, Meriden, Connecticut

1. This inspection report has been prepared for the exclusive use of the City of Meriden (the "Client") and is subject to and is issued in connection with the terms and conditions of the original Agreement and all of its provisions. Any use or reliance upon information provided in this report, without the specific written authorization of the Client and Fuss & O'Neill, Inc. (Fuss & O'Neill) shall be at the User's individual risk. This report should not be used as an abatement specification. All quantities of materials identified during this inspection are approximate.
2. Fuss & O'Neill has obtained and relied upon information from multiple sources to form certain conclusions regarding likely environmental issues at and in the vicinity of the subject property in conducting this inspection. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information or verify compliance by any party with federal, state or local laws or regulations.
3. Fuss & O'Neill has obtained and relied upon laboratory analytical results in conducting the inspection. This information was used to form conclusions regarding the types and quantities of assumed and confirmed ACM and materials containing <1% asbestos that must be managed prior to demolition activities that will disturb these materials at the Site. Fuss & O'Neill has not performed an independent review of the reliability of this laboratory data.
4. Unless otherwise noted, only suspect asbestos materials associated within or located on the building (aboveground) were included in this inspection. Suspect asbestos materials may exist below the ground surface that were not included in the scope of work of this inspection. Fuss & O'Neill cannot guarantee all asbestos were identified within the areas included in the scope of work.
5. The findings, observations and conclusions presented in this report are limited by the scope of services outlined in our written proposal dated April 30, 2021. Furthermore, the assessment has been conducted in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made.
6. The conclusions presented in this report are based solely upon information gathered by Fuss & O'Neill to date. Should further environmental or other relevant information be discovered at a later date, the Client should immediately bring the information to the Fuss & O'Neill's attention. Based upon an evaluation and assessment of relevant information, Fuss & O'Neill may modify the report and its conclusions.

Appendix B

Fuss & O'Neill Inspector License and Accreditation

1005746 SP

1164

-C01-P05753-I



KRISTINA M SNURKOWSKI
FUSS & O'NEILL INC
146 HARTFORD RD
MANCHESTER CT 06040-5992

Dear KRISTINA M SNURKOWSKI,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

DEIDRE S. GIFFORD, MD, MPH, ACTING COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

EMPLOYER'S COPY		
STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH		
NAME KRISTINA M SNURKOWSKI		
VALIDATION NO. 03-899962	CERTIFICATE NO. 000978	CURRENT THROUGH 08/31/22
PROFESSION ASBESTOS CONSULTANT-INSPECTOR		
 SIGNATURE	 ACTING COMMISSIONER	

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
ASBESTOS CONSULTANT-INSPECTOR

KRISTINA M SNURKOWSKI

CERTIFICATE NO.
000978

CURRENT THROUGH
08/31/22

VALIDATION NO.
03-899962

SIGNATURE
ACTING COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD		
STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH		
NAME KRISTINA M SNURKOWSKI		
VALIDATION NO. 03-899962	CERTIFICATE NO. 000978	CURRENT THROUGH 08/31/22
PROFESSION ASBESTOS CONSULTANT-INSPECTOR		
 SIGNATURE	 ACTING COMMISSIONER	



CERTIFICATE OF ACHIEVEMENT

This certifies that

Kristina Snurkowski

has successfully completed the
4 Hour Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763 and
CT Department of Public Health Title 20

conducted by:

ATC Group Services LLC dba ATLAS Technical
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

A handwritten signature in black ink that reads "Gregory Morsch".

Principal Instructor: Gregory Morsch

December 9, 2021
Date of Course

December 9, 2022
Expiration Date

A handwritten signature in black ink that reads "Gregory Morsch".

Regional Training Director: Gregory Morsch

SIAR - 7031
Certificate Number

December 9, 2021
Examination Date

Appendix C

Asbestos Laboratory Report and Chain of Custody Form



Date: 10/19/21

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Project Name: Harbor Brook Chanel Improvements – Powerhouse Building Project No. 20170932.C11 Task No.: 000500

Site Address: 104 Butler Street, Meriden, CT Location: Abandoned powerhouse building Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
101921KS-01A	Ground Floor	Gasket associated with 3" pipe
101921KS-01B	Ground Floor	Gasket associated with 3" pipe
101921KS-02A	Second Floor	Gasket associated with 6" pipe
101921KS-02B	Second Floor	Gasket associated with 6" pipe
101921KS-03A	Second Floor	Gasket associated with 12" pipe
101921KS-03B	Second Floor	Gasket associated with 12" pipe
101921KS-04A	Second Floor	Square gasket associated with Dean Bros equipment
101921KS-04B	Second Floor	Square gasket associated with Dean Bros equipment
101921KS-05A	Second Floor	Red brick of boilers
101921KS-05B	Second Floor	Red brick of boilers
101921KS-06A	Second Floor	Gray mortar for bricks of boilers
101921KS-06B	Second Floor	Gray mortar for bricks of boilers
101921KS-07A	Second Floor	Tan sand or degraded mortar behind brick
101921KS-07B	Second Floor	Tan sand or degraded mortar behind brick
101921KS-07C	Second Floor	Tan sand or degraded mortar behind brick
101921KS-08A	Second Floor	Tan fire brick
101921KS-08B	Second Floor	Tan fire brick
101921KS-09A	Second Floor	White rope boiler door gasket
101921KS-09B	Second Floor	White rope boiler door gasket
101921KS-09C	Second Floor	White rope boiler door gasket
101921KS-10A	Second Floor	Gray boiler door cement
101921KS-10B	Second Floor	Gray boiler door cement
101921KS-10C	Second Floor	Gray boiler door cement
101921KS-11A	Second Floor- From Catwalk	White fabric tank jacket



Date: 10/19/21

Sample ID	Sample Location	Type of Material
101921KS-11B	Second Floor from Catwalk	White fabric tank jacket
101921KS-11C	Second Floor from Catwalk	White fabric tank jacket
101921KS-12A	Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers
101921KS-12B	Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers
101921KS-12C	Second Floor from Catwalk	Light gray fibrous insulation on tanks mounted above boilers
101921KS-13A	Second Floor	Red coating on boiler bricks
101921KS-13B	Second Floor	Red coating on boiler bricks
101921KS-13C	Second Floor	Red coating on boiler bricks
101921KS-14A	Second Floor from Catwalk	White rope associated with boilers
101921KS-14B	Second Floor from Catwalk	White rope associated with boilers
101921KS-14C	Second Floor from Catwalk	White rope associated with boilers
101921KS-15A	Ground Floor	White electrical wire fabric wrap
101921KS-15B	Second Floor	White electrical wire fabric wrap
101921KS-15C	Second Floor	White electrical wire fabric wrap
101921KS-16A	Second Floor	Black electrical wire fabric wrap
101921KS-16B	Second Floor	Black electrical wire fabric wrap
101921KS-16C	Second Floor	Black electrical wire fabric wrap
101921KS-17A	Second floor electrical box	Tan paper in electrical box
101921KS-17B	Second floor electrical box	Tan paper in electrical box
101921KS-18A	Fallen into second floor	Black asphaltic layered roofing
101921KS-18B	Fallen into second floor	Black asphaltic layered roofing
101921KS-18C	Fallen into second floor	Black asphaltic layered roofing

Analysis Method: ☒ PLM ☐ TEM ☐ Other _____

Turnaround Time: PLM: 24 Hours TEM 24 Hours

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 10/25/21 Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and ctexidor@fando.com

Do Not Mail Hard Copy Report

Total # of Samples: 46

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples



FUSS & O'NEILL

Fuss & O'Neill EMSL Customer No. ENV154

www.fando.com

146 Hartford Road, Manchester, CT 06040

Phone (860) 646-2469

Page 3 of 3

Date: 10/19/21

unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.

Samples collected by: Kristina Snurkowski Date: 10/19/21

Samples Sent by: Kristina Snurkowski Date: 10/22/21 Time: 4:30 PM

Samples Received by: *Ma...* 10:37 AM Date: 10/23/21 Time: Shipped To: ☒ EMSL ☐ OtherMethod of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other

FX: 8139 2517 6383

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2021 OCT 23 AM 10:37



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<http://www.EMSL.com> / manhattanlab@emsl.com

EMSL Order ID: 032119382
 Customer ID: ENVI54
 Customer PO: 21079032.C11
 Project ID:

Attn: Carlos Texidor
 Fuss & O'Neill, Inc.
 146 Hartford Road
 Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Collected: 10/19/2021
Received: 10/23/2021
Analyzed: 10/26/2021

Proj: 21079032.C11/ 000500/ HARBOR BROOK CHANNEL IMPROVEMENTS - POWERHOUSE BUILDING/ 104 BUTLER STREET/ MERIDEN, CT/ ABANDONED POWERHOUSE BUILDING

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 101921KS-01A **Lab Sample ID:** 032119382-0001

Sample Description: GROUND FLOOR/GASKET ASSOCIATE WITH 3" PIPE

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	4.0%	61.0%	35% Chrysotile	

Client Sample ID: 101921KS-01B **Lab Sample ID:** 032119382-0002

Sample Description: GROUND FLOOR/GASKET ASSOCIATE WITH 3" PIPE

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	

Client Sample ID: 101921KS-02A **Lab Sample ID:** 032119382-0003

Sample Description: SECOND FLOOR/GASKET ASSOCIATED WITH 6" PIPE

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	0.0%	55.0%	45% Chrysotile	

Client Sample ID: 101921KS-02B **Lab Sample ID:** 032119382-0004

Sample Description: SECOND FLOOR/GASKET ASSOCIATED WITH 6" PIPE

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	

Client Sample ID: 101921KS-03A **Lab Sample ID:** 032119382-0005

Sample Description: SECOND FLOOR/GASKET ASSOCIATED WITH 12" PIPE

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Black	0.0%	70.0%	30% Chrysotile	

Client Sample ID: 101921KS-03B **Lab Sample ID:** 032119382-0006

Sample Description: SECOND FLOOR/GASKET ASSOCIATED WITH 12" PIPE

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	

Client Sample ID: 101921KS-04A **Lab Sample ID:** 032119382-0007

Sample Description: SECOND FLOOR/SQUARE GASKET ASSOCIATED WITH DEAN BROS EQUIPMENT

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	5.0%	55.0%	40% Chrysotile	



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EMSL Order ID: 032119382
 Customer ID: ENVI54
 Customer PO: 21079032.C11
 Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 101921KS-04B **Lab Sample ID:** 032119382-0008

Sample Description: SECOND FLOOR/SQUARE GASKET ASSOCIATED WITH DEAN BROS EQUIPMENT

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	

Client Sample ID: 101921KS-05A **Lab Sample ID:** 032119382-0009

Sample Description: SECOND FLOOR/RED BRICK OF BOILERS

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Red	0.0%	100.0%	None Detected	

Client Sample ID: 101921KS-05B **Lab Sample ID:** 032119382-0010

Sample Description: SECOND FLOOR/RED BRICK OF BOILERS

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/26/2021	Red	0.0%	100.0%	None Detected	

Client Sample ID: 101921KS-06A **Lab Sample ID:** 032119382-0011

Sample Description: SECOND FLOOR/GRAY MORTAR FOR BRICKS OF BOILERS

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 101921KS-06B **Lab Sample ID:** 032119382-0012

Sample Description: SECOND FLOOR/GRAY MORTAR FOR BRICKS OF BOILERS

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/26/2021	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 101921KS-07A **Lab Sample ID:** 032119382-0013

Sample Description: SECOND FLOOR/TAN SAND OR DEGRADED MORTAR BEHIND BRICK

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	4.0%	96.0%	None Detected	

Client Sample ID: 101921KS-07B **Lab Sample ID:** 032119382-0014

Sample Description: SECOND FLOOR/TAN SAND OR DEGRADED MORTAR BEHIND BRICK

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	2.0%	98.0%	None Detected	

Client Sample ID: 101921KS-07C **Lab Sample ID:** 032119382-0015

Sample Description: SECOND FLOOR/TAN SAND OR DEGRADED MORTAR BEHIND BRICK

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/26/2021	Various	0.0%	100.0%	None Detected	

Client Sample ID: 101921KS-08A **Lab Sample ID:** 032119382-0016

Sample Description: SECOND FLOOR/TAN FIRE BRICK

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Tan	0.0%	100.0%	None Detected	



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EMSL Order ID: 032119382
 Customer ID: ENVI54
 Customer PO: 21079032.C11
 Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID:		101921KS-08B		Lab Sample ID: 032119382-0017		
Sample Description:		SECOND FLOOR/TAN FIRE BRICK				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/26/2021	Yellow	0.0%	100.0%	None Detected	
Client Sample ID:		101921KS-09A			Lab Sample ID: 032119382-0018	
Sample Description:		SECOND FLOOR/WHITE ROPE BOILER DOOR GASKET				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Beige	0.0%	40.0%	60% Chrysotile	
Client Sample ID:		101921KS-09B			Lab Sample ID: 032119382-0019	
Sample Description:		SECOND FLOOR/WHITE ROPE BOILER DOOR GASKET				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-09C			Lab Sample ID: 032119382-0020	
Sample Description:		SECOND FLOOR/WHITE ROPE BOILER DOOR GASKET				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-10A			Lab Sample ID: 032119382-0021	
Sample Description:		SECOND FLOOR/GRAY BOILER DOOR CEMENT				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Gray	0.0%	90.0%	10% Chrysotile	
Client Sample ID:		101921KS-10B			Lab Sample ID: 032119382-0022	
Sample Description:		SECOND FLOOR/GRAY BOILER DOOR CEMENT				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-10C			Lab Sample ID: 032119382-0023	
Sample Description:		SECOND FLOOR/GRAY BOILER DOOR CEMENT				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-11A			Lab Sample ID: 032119382-0024	
Sample Description:		SECOND FLOOR FROM CATWALK/WHITE FABRIC TANK JACKET				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Various	80.0%	20.0%	None Detected	
Client Sample ID:		101921KS-11B			Lab Sample ID: 032119382-0025	
Sample Description:		SECOND FLOOR FROM CATWALK/WHITE FABRIC TANK JACKET				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Various	85.0%	15.0%	None Detected	



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EMSL Order ID: 032119382
 Customer ID: ENVI54
 Customer PO: 21079032.C11
 Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID:		101921KS-11C		Lab Sample ID: 032119382-0026		
Sample Description:		SECOND FLOOR FROM CATWALK/WHITE FABRIC TANK JACKET				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/26/2021	Brown	80.0%	20.0%	None Detected	
Client Sample ID:		101921KS-12A			Lab Sample ID: 032119382-0027	
Sample Description:		SECOND FLOOR FROM CATWALK/LIGHT GRAY FIBROUS INSULATION ON TANKS MOUNTED ABOVE BOILERS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Beige	0.0%	70.0%	30% Chrysotile	
Client Sample ID:		101921KS-12B			Lab Sample ID: 032119382-0028	
Sample Description:		SECOND FLOOR FROM CATWALK/LIGHT GRAY FIBROUS INSULATION ON TANKS MOUNTED ABOVE BOILERS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-12C			Lab Sample ID: 032119382-0029	
Sample Description:		SECOND FLOOR FROM CATWALK/LIGHT GRAY FIBROUS INSULATION ON TANKS MOUNTED ABOVE BOILERS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-13A			Lab Sample ID: 032119382-0030	
Sample Description:		SECOND FLOOR/RED COATING ON BOILER BRICKS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Red	0.0%	90.0%	10% Chrysotile	
Client Sample ID:		101921KS-13B			Lab Sample ID: 032119382-0031	
Sample Description:		SECOND FLOOR/RED COATING ON BOILER BRICKS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-13C			Lab Sample ID: 032119382-0032	
Sample Description:		SECOND FLOOR/RED COATING ON BOILER BRICKS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	
Client Sample ID:		101921KS-14A			Lab Sample ID: 032119382-0033	
Sample Description:		SECOND FLOOR FROM CATWALK/WHITE ROPE ASSOCIATED WITH BOILERS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Beige	0.0%	40.0%	60% Chrysotile	
Client Sample ID:		101921KS-14B			Lab Sample ID: 032119382-0034	
Sample Description:		SECOND FLOOR FROM CATWALK/WHITE ROPE ASSOCIATED WITH BOILERS				
TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	



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EMSL Order ID: 032119382
 Customer ID: ENVI54
 Customer PO: 21079032.C11
 Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 101921KS-14C **Lab Sample ID:** 032119382-0035

Sample Description: SECOND FLOOR FROM CATWALK/WHITE ROPE ASSOCIATED WITH BOILERS

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	

Client Sample ID: 101921KS-15A **Lab Sample ID:** 032119382-0036

Sample Description: GROUND FLOOR/WHITE ELECTRICAL WIRE FABRIC WRAP

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Beige	30.0%	48.0%	22% Chrysotile	

Client Sample ID: 101921KS-15B **Lab Sample ID:** 032119382-0037

Sample Description: SECOND FLOOR/WHITE ELECTRICAL WIRE FABRIC WRAP

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	

Client Sample ID: 101921KS-15C **Lab Sample ID:** 032119382-0038

Sample Description: SECOND FLOOR/WHITE ELECTRICAL WIRE FABRIC WRAP

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021				Positive Stop (Not Analyzed)	

Client Sample ID: 101921KS-16A **Lab Sample ID:** 032119382-0039

Sample Description: SECOND FLOOR/BLACK ELECTRICAL WIRE FABRIC WRAP

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Black	45.0%	55.0%	None Detected	

Client Sample ID: 101921KS-16B **Lab Sample ID:** 032119382-0040

Sample Description: SECOND FLOOR/BLACK ELECTRICAL WIRE FABRIC WRAP

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Black	50.0%	50.0%	None Detected	

Client Sample ID: 101921KS-16C **Lab Sample ID:** 032119382-0041

Sample Description: SECOND FLOOR/BLACK ELECTRICAL WIRE FABRIC WRAP

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/26/2021	Gray/Black	20.0%	45.0%	35% Chrysotile	The sample group is not homogeneous.

Client Sample ID: 101921KS-17A **Lab Sample ID:** 032119382-0042

Sample Description: SECOND FLOOR ELECTRICAL BOX/TAN PAPER IN ELECTRICAL BOX

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	90.0%	10.0%	None Detected	

Client Sample ID: 101921KS-17B **Lab Sample ID:** 032119382-0043

Sample Description: SECOND FLOOR ELECTRICAL BOX/TAN PAPER IN ELECTRICAL BOX

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/26/2021	Brown	70.0%	30.0%	None Detected	



EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
<http://www.EMSL.com> / manhattanlab@emsl.com

EMSL Order ID: 032119382
Customer ID: ENVI54
Customer PO: 21079032.C11
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 101921KS-18A **Lab Sample ID:** 032119382-0044

Sample Description: FALLEN INTO SECOND FLOOR/BLACK ASPHALTIC LAYERED ROOFING

TEST	Analyzed	Color	Non-Asbestos		Asbestos	Comment
	Date		Fibrous	Non-Fibrous		
PLM	10/25/2021	Black	30.0%	70.0%	None Detected	
TEM Grav. Reduction	10/26/2021	Black	0.0%	100.0%	None Detected	

Client Sample ID: 101921KS-18B **Lab Sample ID:** 032119382-0045

Sample Description: FALLEN INTO SECOND FLOOR/BLACK ASPHALTIC LAYERED ROOFING

TEST	Analyzed	Color	Non-Asbestos		Asbestos	Comment
	Date		Fibrous	Non-Fibrous		
PLM	10/25/2021	Black	35.0%	65.0%	None Detected	

Client Sample ID: 101921KS-18C **Lab Sample ID:** 032119382-0046

Sample Description: FALLEN INTO SECOND FLOOR/BLACK ASPHALTIC LAYERED ROOFING

TEST	Analyzed	Color	Non-Asbestos		Asbestos	Comment
	Date		Fibrous	Non-Fibrous		
PLM	10/26/2021	Black	15.0%	85.0%	None Detected	



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EMSL Order ID: 032119382
Customer ID: ENVI54
Customer PO: 21079032.C11
Project ID:

Attn: Carlos Texidor
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Collected: 10/19/2021
Received: 10/23/2021
Analyzed: 10/26/2021

Proj: 21079032.C11/ 000500/ HARBOR BROOK CHANNEL IMPROVEMENTS - POWERHOUSE BUILDING/ 104 BUTLER STREET/ MERIDEN, CT/ ABANDONED POWERHOUSE BUILDING

The samples in this report were submitted for asbestos bulk analysis. The reference number for these samples is the Order ID above. Please use this reference number when calling about these samples.

Sample Receipt Date: 10/23/2021

Sample Receipt Time: 10:37 am

Analysis Completed Date: 10/26/2021

Analysis Completed Time: 10:23 pm

Analyst(s):

Kerrie Gibson PLM (8)

Steven Dutter TEM Grav. Reduction (1)

Valeria Cevallos PLM (22)

Reviewed and approved by:

James Hall, 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. Estimation of uncertainty available upon request. This report is a summary of multiple methods of analysis, fully compliant reports are available upon request. A combination of PLM and TEM analysis may be necessary to ensure consistently reliable detection of asbestos. This report must not be used to claim product endorsement by NVLAP of any agency or the U.S. Government.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Appendix D

Site Photographs



Exterior of building



First Floor



Second floor boilers



Red coating on brick of boilers



Inside of boiler



Inside of boiler



Example of pipe flange gaskets



Example of pipe flange gaskets



Boiler access doors showing asbestos containing rope gasket and cement on inside of door



Example of asbestos containing electrical wire wrap



Tanks mounted above boilers – Accessible from catwalk



Photo showing degradation of tank insulation



Roof flashing remaining on parapet wall after roof field has collapsed



Second Floor



Duct attached to boilers. Seam sealant assumed present and if located should be presumed to contain asbestos.



Tank vault from above. Access stairway has deteriorated.



Black material observed on brick wall of vault. Material could not be inspected closely. May be waterproofing. Assumed asbestos containing.

Limited Hazardous Building Materials Inspection

February 17 & 18, 2020 and October 14 & 21, 2021

100 Hanover Street
Meriden, Connecticut

City of Meriden

Meriden, Connecticut

March 16, 2020

Revised December 3, 2021



FUSS & O'NEILL

Fuss & O'Neill, Inc.

146 Hartford Road
Manchester, CT 06040



FUSS & O'NEILL

March 16, 2020; Revised December 3, 2021

Mr. Brian Ennis, P.E.
Associate City Engineer
City of Meriden
City Hall, Room 210
142 East Main Street
Meriden, CT 06450-8022

Re: Limited Hazardous Building Materials Inspection
100 Hanover Street, Meriden, Connecticut
Fuss & O'Neill Project No. 20170932.C11

Dear Mr. Ennis:

Enclosed is the revised report for the limited hazardous building materials inspection conducted in response to the proposed demolition for 100 Hanover Street in Meriden, Connecticut. The work was conducted for the City of Meriden (the "Client").

The initial inspection was performed on February 17 and 18, 2020 by a Fuss & O'Neill, Inc. licensed inspector and included a limited asbestos-containing material (ACM) inspection, lead-based paint (LBP) determination, an inventory of presumed polychlorinated biphenyl (PCB) containing building materials, and an inventory of PCB-containing ballasts and mercury-containing equipment. The information summarized in this report is for the above-mentioned materials only. The work was performed in accordance with our written proposal dated April 30, 2021.

Supplemental inspections were conducted on October 14 and 21, 2021 and included a limited ACM inspection and an inventory of presumed PCB containing building materials.

If you should have any questions regarding the contents of this report, please do not hesitate to contact me at (860) 646-2469, extension 5570. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Carlos Texidor
Associate

CT/kr

Enclosure

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Table of Contents

Limited Hazardous Building Materials Inspection Report 100 Hanover Street, Meriden, Connecticut City of Meriden

1	Introduction	1
1.1	Building and Mechanical System Description.....	1
2	Asbestos Inspection.....	1
2.1	Methodology	1
2.2	Results	3
2.3	Discussion	4
2.4	Conclusions and Recommendations.....	4
3	Lead-Based Paint Determination	5
3.1	Methodology	5
3.2	XRF Determination Results.....	6
3.3	Discussion	6
3.4	Conclusion and Recommendations	6
4	Presumed PCB-Containing Source Building Materials Inspection.....	6
4.1	Inspection and Results.....	7
4.2	Conclusions and Recommendations.....	7
5	PCB-Containing Fluorescent Light Ballasts and Mercury-Containing Equipment.....	7
5.1	PCB-Containing Fluorescent Ballasts.....	7
5.2	Mercury-Containing Equipment.....	8

Tables

End of Report

1. Summary of Suspect Asbestos-Containing Materials
2. Summary of Asbestos-Containing Materials and Materials Containing <1% Asbestos Inventory
3. Presumed PCB Containing Materials Inventory
4. PCB/DEHP-Containing Light Ballasts Inventory
5. Mercury-Containing Equipment Inventory

Appendices

End of Report

APPENDIX A	LIMITATIONS
APPENDIX B	INSPECTOR LICENSE AND ACCREDITATION
APPENDIX C	ASBESTOS LABORATORY REPORTS AND CHAIN OF CUSTODY FORMS
APPENDIX D	SITE PHOTOGRAPHS
APPENDIX E	XRF LEAD DETERMINATION FIELD DATA SHEETS
APPENDIX F	DOOR AND WINDOW TYPES

1 Introduction

On February 17 and 18, 2020, Fuss & O'Neill, Inc. (Fuss & O'Neill) representative Kristina Snurkowski performed a limited hazardous building materials inspection for proposed renovations at 100 Hanover Street, Meriden, Connecticut (the "Site"). Supplemental inspections were conducted on October 14 and 21, 2021 to investigate the roof and previously inaccessible areas. The work was conducted for the City of Meriden (the "Client") in accordance with our written proposal dated April 30, 2021, and is subject to the limitations included in *Appendix A*.

The inspection included the following:

- Limited asbestos-containing material (ACM) inspection;
- Lead-based paint (LBP) determination;
- Inventory of presumed polychlorinated biphenyls (PCB) containing materials; and
- PCB-containing light ballasts and mercury-containing equipment inventory.

This hazardous building materials inspection was performed in response to proposed demolition activities and included the interior and exterior of the building.

1.1 Building and Mechanical System Description

The building structure includes two stories with no basement and was reportedly constructed in 1910. The building contains approximately 8,418 square feet (SF) of total floor area. The building is heated by a gas-fired forced hot air boiler system. The building was formerly heated by an oil-fired radiant heating system according to City of Meriden records available through the City building department.

2 Asbestos Inspection

A property Owner must ensure that a thorough ACM inspection is performed prior to possible disturbance of suspect ACM during renovation or demolition activities. This is a requirement of the Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation located at Title 40 CFR, Part 61, Subpart M.

On February 17 and 18, 2020 and October 14 and 21, 2021, Ms. Kristina Snurkowski of Fuss & O'Neill conducted the inspection. Ms. Snurkowski is a State of Connecticut Department of Public Health (CTDPH)-licensed Asbestos Inspector. Refer to *Appendix B* for the Asbestos Inspector license and accreditation.

2.1 Methodology

The limited inspection was conducted by visually inspecting for suspect ACM and touching each of the suspect materials. The suspect materials were categorized into three EPA NESHAP groups: friable and non-friable Category I and Category II type ACM.

- A Friable Material is defined as material that contains greater than 1 percent ($> 1\%$) asbestos that when dry **can** be crumbled, pulverized, or reduced to powder by hand pressure.
- A Category I Non-Friable Material refers to material that contains $> 1\%$ asbestos (i.e., packings, gaskets, resilient floor coverings, and asphalt roofing products) that when dry **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.
- A Category II Non-Friable Material refers to any non-friable material excluding Category I materials that contain $> 1\%$ asbestos that when dry, **cannot** be crumbled, pulverized, or reduced to powder by hand pressure.

The suspect ACM were also categorized into their applications including Thermal System Insulation (TSI), Surfacing ACM (S), and Miscellaneous ACM (M). TSI includes those materials used to prevent heat loss/gain or water condensation on mechanical systems. Examples of TSI are pipe insulation, boiler insulation, duct insulation, and mudded pipe fitting insulations. Surfacing ACM includes those ACM that are applied by spray, trowel, or otherwise applied to an existing surface. Surfacing ACM is commonly used for fireproofing, decorative, and acoustical applications. Miscellaneous materials include those ACM not listed as thermal or surfacing, such as linoleum, vinyl asbestos flooring, ceiling tiles, caulking, glues, construction adhesives, etc.

The EPA recommends collecting suspect ACM samples in a manner sufficient to determine asbestos content and to segregate each suspect type of homogeneous (similar in color, texture, and date of application) materials. The EPA NESHAP regulation does not specifically identify a minimum number of samples to be collected for each homogeneous material, but the NESHAP regulation does recommend the use of sampling protocols included in Title 40 CFR, Part 763, Subpart E: Asbestos Hazard Emergency Response Act (AHERA).

The EPA AHERA regulation requires a specific number of samples be collected based on the type of material and quantity present. This regulation includes the following protocol:

1. Surfacing Materials (S) (i.e., plasters, spray-applied fireproofings, etc.) must be collected in a randomly distributed manner representing each homogeneous area based on the overall quantity represented by the sampling as follows:
 - a. Three (3) samples collected from each homogeneous area that is less than or equal to 1,000 square feet.
 - b. Five (5) samples collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.
 - c. Seven (7) samples collected from each homogeneous area that is greater than 5,000 square feet.
2. Thermal System Insulation (TSI) (i.e., pipe insulations, tank insulations, etc.) must be collected in a randomly distributed manner representing each homogeneous area. Three (3) samples must be collected from each material. Also, a minimum of one (1) sample of any patching materials applied to TSI presuming the patched area is less than 6 linear or square feet should be collected.

3. Miscellaneous materials (M) (i.e., floor tile, gaskets, construction mastics, etc.) should have a minimum of two (2) samples collected for each type of homogeneous material. Sample collection was conducted in a manner sufficient to determine asbestos content of the homogeneous material as determined by the inspector.

The inspector collected samples of those suspect ACM anticipated to be disturbed by proposed demolition activities and prepared a proper chain of custody form for transmission of the samples to EMSL Analytical, Inc. for analysis. EMSL is a State of Connecticut-licensed and American Industrial Hygiene Association (AIHA)-accredited asbestos laboratory. The sample locations, material type, sample identification, and asbestos content are identified by bulk sample analysis in **Table 1** attached hereto. Suspect ACM not listed in the table that may be identified at a later date at the Site, should be assumed to be ACM until sample collection and analysis indicate otherwise. Initial asbestos sample analysis was conducted using the EPA Interim Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116) via Polarized Light Microscopy with Dispersion Staining (PLM/DS).

If samples of suspect materials could not be collected or were inaccessible but observed elsewhere, these materials were assumed to contain asbestos and the inspector approximated quantities. The roof was included in the scope of work for this inspection. Also, intrusive or destructive investigative techniques were performed at the Site to access and observe concealed areas that may have had suspect ACM that were hidden or obstructed from normal view.

Fuss & O'Neill conducted core boring to investigate the concrete foundation on October 29, 2021. Three locations were cored on the ground floor of the building including the main entry by the elevator, the back entry stairway, and the side entry to the church. Clear plastic vapor barrier was located below the slab. Plastic is not a suspect asbestos containing material, a sample was not collected. Fuss & O'Neill did not conduct subsurface investigations to identify suspect cementitious pipe or other suspect subgrade features at the Site.

2.2 Results

Utilizing the EPA protocol and criteria, the following materials were determined to contain asbestos:

- White joint compound associated with gypsum board walls and ceilings (Wall system considered asbestos);
- Exterior dark brown caulking associated with type 6 door (refer to *Appendix D*);
- Black flashing paper and cement on drive through and side entry portico roofs;
- Black tar around roof drain on drive through roof;
- Black flashing and cement on parapet wall on main roof;
- Penetration flashing cement on main roof; and
- Black caulking at top of metal flashing (termination bar) on main roof.

The following materials were identified as containing asbestos at less than one percent (< 1%):

- Tan glue associated with cool gray 4" vinyl cove base molding;

- Exterior gray caulking associated with louvres;
- Brown paper below built-up asphalt roofing; and
- Tan adhesive associated with elevator car carpet.

Refer to **Table 1** for a complete list of ACM and non-ACM sampled as part of this limited inspection. Refer to **Table 2** attached hereto for the ACM and materials containing <1% asbestos inventory. Refer to *Appendix C* for the asbestos laboratory reports and chain of custody forms. Refer to *Appendix D* for Site photographs.

2.3 Discussion

The EPA and the Occupational Safety and Health Administration (OSHA) define a material that contains greater than one percent ($> 1\%$) asbestos, utilizing PLM/DS, as being an ACM. The CTDPH defines any material that contains equal to or greater than one percent ($\geq 1\%$) asbestos, utilizing PLM/DS, as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos.

Suspect ACM not identified during these limited inspections should be presumed to contain asbestos until sample collection and laboratory analysis indicate otherwise.

Additionally, the EPA has suggested that materials that are non-friable organically bound (NOB) materials (e.g., asphaltic-based materials, adhesives, etc.) are recommended for further confirmatory analysis utilizing Transmission Electron Microscopy (TEM). Forty-seven of the collected samples were recommended to be analyzed by TEM. The results of TEM analysis are denoted in **Table 1**.

2.4 Conclusions and Recommendations

Based on visual observations, sample collection, and laboratory analysis, **asbestos is present at the Site**.

Prior to disturbance, ACM that would likely be impacted by the proposed demolition activities must first be abated by a state-licensed Asbestos Abatement Contractor. This is a requirement of CTDPH and EPA NESHAP regulations governing asbestos abatement.

Due to the inability to effectively separate some types of multi-layered ACM (e.g., gypsum board/joint compound, roof flashing/roof, etc.) from non-ACM, these materials are considered asbestos-contaminated and must be managed as ACM for the purposes of removal and disposal.

Suspect materials encountered during renovation/demolition that are not identified in this report as being non-ACM should be presumed to be ACM until sample collection and laboratory analysis indicate otherwise. Prior to renovation/demolition that may disturb hidden/inaccessible areas, we recommend conducting a supplemental asbestos inspection of these areas and spaces. These areas include:

- Behind mirrors.

Materials are present at the Site where concentrations of asbestos < 1%. While the EPA and the CTDPH identify materials containing < 1% as a non-asbestos containing material, OSHA worker protection regulations apply to materials containing any amount of asbestos.

This report is not intended to be utilized as a bidding document or as a project specification document. The report is designed to aid the building owner, construction manager, general contractors, and asbestos abatement contractors in locating identified ACM and materials containing <1% asbestos.

3 Lead-Based Paint Determination

On February 17, 2020, Ms. Kristina Snurkowski of Fuss & O'Neill performed a lead-based paint (LBP) determination associated with coated building components at the Site that will be disturbed during demolition activities. An x-ray fluorescence (XRF) analyzer was used to perform the LBP determination. The determination was conducted in accordance with generally accepted industry standards for non-residential (i.e., not child-occupied) buildings.

3.1 Methodology

A Heuresis Pb200i handheld XRF lead paint analyzer, serial number 2170, was utilized for the LBP determination. The instrument was checked for proper calibration prior to use as detailed by the manufacturer and the Performance Characteristic Sheet (PCS) developed for the instruments.

For the purpose of this LBP determination, representative building components were tested as part of this pre-demolition study. Individual repainting efforts are not discoverable in such a limited program. LBP issues involving properties that are not residential are regulated to a limited degree for worker protection relating to paint-disturbing work activities and waste disposal.

Worker protection is regulated by OSHA regulations, as well as CTDPH regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing lead-containing paint. An LBP determination cannot determine a safe level of lead but is intended to provide guidance for implementing industry standards for lead in paint at identified locations. Contractors may then better determine exposure of workers to airborne lead by understanding the different concentrations of LBP activities that disturb paint on representative surfaces.

The EPA Resource Conservation and Recovery Act (RCRA), as well as the Connecticut Department of Energy and Environmental Protection (CTDEEP), regulate disposal of lead-containing waste. Lead-containing materials that will be impacted during demolition activities and result in waste for disposal must either be analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) analysis if lead is determined to be present in non-residential buildings or be presumed as a hazardous waste. A TCLP sample is a representative sample of the intended waste stream. The results are compared to a threshold value of 5.0 milligrams per liter (mg/L); a result exceeding this value is considered hazardous lead waste. If the result is below the established level, the material is not considered hazardous and may be disposed as general construction debris.

A level of LBP equal to or exceeding 1.0 milligrams of lead per square centimeter (mg/cm²) is considered toxic or dangerous for compliance with residential standards. For purpose of this LBP determination the level of 1.0 mg/cm² has been utilized as a threshold for areas where possible worker exposures may occur.

3.2 XRF Determination Results

The LBP determination indicated consistent painting trends associated with representative building components that may be impacted by potential demolition work. None of the tested building components were determined to contain levels of lead (equal to or greater than 1.0 mg/cm²).

Refer to *Appendix E* for the XRF lead determination field data sheets.

3.3 Discussion

OSHA published a Lead in Construction Standard (OSHA Lead Standard) Title 29 CFR, Part 1926.62 in May 1993. The OSHA Lead Standard has no set limit for the content of lead in paint below which the standards do not apply. The OSHA Lead Standards are task-based and derived from airborne exposure and blood lead levels.

The results of this LBP determination are intended to provide guidance to contractors for occupational lead exposure controls. Building components coated with lead levels above industry standards may cause exposures to lead above OSHA standards during proposed demolition activities. The results of this determination are also intended to provide insight into waste disposal requirements, in accordance with EPA RCRA regulations. Due to the destructive nature, TCLP sampling was not conducted.

3.4 Conclusion and Recommendations

Based on our LBP determination results, LBP is not present on coated building components located on or in the building that were tested by XRF.

Contractors must be made aware that OSHA has not established a level of lead in a material below which Title 29 CFR, Part 1926.62 does not apply. Contractors shall comply with exposure assessment criteria, interim worker protection, and other requirements of the regulation as necessary to protect workers during any demolition work that will impact lead paint.

4 Presumed PCB-Containing Source Building Materials Inspection

Sampling of building materials for polychlorinated biphenyls (PCBs) is presently not mandated by the EPA. However, significant liability exists for building owners who improperly dispose a PCB-containing waste material. Recent knowledge and awareness of PCBs within matrices such as caulking compounds,

glazing compounds, paints, adhesives, and ceiling tiles has become more prevalent, especially amongst remediation contractors, waste haulers, and disposal facilities.

Presently, building materials containing PCBs at concentrations equal to or greater than (\geq) 50 parts per million (ppm) or the equivalent units of milligrams per kilogram (mg/kg) are regulated by the EPA and characterized as PCB Bulk Product. Building materials containing less than ($<$) 50 ppm may also be regulated unless proven to be an Excluded PCB Product. The definition of an Excluded PCB Product includes those products or source of the products containing $<$ 50 ppm concentration PCBs that were legally manufactured, processed, distributed in commerce, or used before October 1, 1984. Building materials determined to be Excluded PCB Product containing $>$ 1 ppm PCBs but $<$ 50 ppm PCBs are regulated by the CTDEEP. Building materials containing \leq 1 ppm PCBs are considered non-regulated.

4.1 Inspection and Results

On February 17 and 18, 2020, Ms. Kristina Snurkowski performed a visual inspection of presumed PCB containing caulking and glazing materials at the Site.

Refer to **Table 3** for a list of presumed PCB-containing building materials. Refer to *Appendix F* for a photographic list of door and window types.

4.2 Conclusions and Recommendations

Fuss & O'Neill recommends the materials listed in Table 3 scheduled to be impacted by demolition activities be presumed to contain PCBs and handled and disposed of in accordance with EPA regulations as PCB Bulk Product Waste.

Fuss & O'Neill recommends that a comprehensive scope of work and technical specification for presumed PCB remediation during demolition be developed as part of Site demolition plans.

This report is not intended to be utilized as a bidding document or as a project specification document. The report is designed to aid the building owner, architect, construction manager, general contractors, and contractors in locating presumed PCB-containing materials.

5 PCB-Containing Fluorescent Light Ballasts and Mercury-Containing Equipment

5.1 PCB-Containing Fluorescent Ballasts

Fluorescent light ballasts manufactured prior to 1979 may contain capacitors that contain PCBs. Light ballasts installed as late as 1985 may also contain PCB capacitors. Fluorescent light ballasts that are not labeled as "No-PCBs" must be assumed to contain PCBs, unless proven otherwise by quantitative

analysis. Capacitors in fluorescent light ballasts labeled as non-PCB-containing may contain diethylhexyl phthalate (DEHP). DEHP was the primary substitute to replace PCBs for small capacitors in fluorescent light ballasts in use until 1991. DEHP is a toxic substance, a suspected carcinogen, and is listed under EPA RCRA and the Superfund law as a hazardous waste. Therefore, EPA Superfund liability exists for landfilling both PCB and DEHP-containing light ballasts. These listed materials are considered hazardous waste under EPA RCRA and require special handling and disposal considerations.

On February 17 and 18, 2020, Fuss & O'Neill representative, Ms. Kristina Snurkowski performed a visual inspection of representative fluorescent light fixtures to identify possible PCB-containing light ballasts. The inspection involved visually inspecting labels on representative light ballasts to identify dates of manufacture and labels indicating "No PCBs". Ballasts manufactured after 1991 were not listed as PCB or DEHP-containing ballasts and were not quantified for disposal.

The light ballasts without a label indicating "No PCBs" are presumed to be PCB-containing waste and must be segregated for proper removal, packaging, transport, and disposal as PCB-containing waste. Those light ballasts labeled as "No PCBs" indicating manufacture dates prior to 1991 are presumed to contain DEHP. DEHP-containing light ballasts must be segregated for proper removal, packaging, transport, and disposal as non-PCB hazardous waste. Note that disposal requirements for DEHP-containing ballasts are slightly varied, and disposal costs are slightly less than PCB-containing light ballasts. Note that the ballasts observed during this inspection were manufactured by Advanced Transformer Co. and marked "No PCBs". Therefore, ballasts were presumed to be DEHP containing. Refer to **Table 4** for the DEHP-Containing Light Ballasts Inventory.

5.2 Mercury-Containing Equipment

Fluorescent lamps/tubes are presumed to contain mercury vapor, which is a hazardous substance to both human health and the environment. Thermostatic controls and electrical switch gear may contain a vial or bulb of mercury associated with the control. Mercury-containing equipment is regulated for proper disposal by the EPA RCRA hazardous waste regulations. According to the EPA, mercury lamps are characterized as a Universal Waste. Therefore, fluorescent lamps must be either recycled, or disposed as hazardous waste.

On February 17 and 18, 2020, Fuss & O'Neill representative, Ms. Kristina Snurkowski, performed an inventory of mercury equipment. These fixtures were inventoried in-place. Refer to **Table 5** for the Mercury-Containing Equipment Inventory.

Report prepared by Environmental Technician, Kristina Snurkowski.

Reviewed by:



Carlos Texidor
Associate



Kathleen C. Pane
Associate

Tables

Table 1
Summary of Suspect Asbestos-Containing Materials

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
Initial Inspection 2/17/20				
021720KS-01A	1st floor chapel wall	White joint compound associated with gypsum board	2% Chrysotile	PLM
021720KS-01B	1 st floor office area closet wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01C	1 st floor storage room next to chapel wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01D	2 nd floor mechanical room wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01E	2 nd floor event room wall	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01F	2 nd floor conference room ceiling	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-01G	A side stairway ceiling	White joint compound associated with gypsum board	NA/Pos stop	PLM
021720KS-02A	1 st floor chapel wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02B	1 st floor office area closet wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02C	1 st floor storage room next to chapel wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02D	2 nd floor mechanical room wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02E	2 nd floor event room wall	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02F	2 nd floor conference room ceiling	Gray gypsum board ceilings and walls	ND	PLM
021720KS-02G	A side stairway ceiling	Gray gypsum board ceilings and walls	ND	PLM
021720KS-03A	1st floor chapel wall	White joint compound and Gray gypsum board composite	<1% Chrysotile	PLM
021720KS-03B	1st floor office area closet wall	White joint compound and Gray gypsum board composite	<1% Chrysotile	PLM
021720KS-03C	1st floor storage room next to chapel wall	White joint compound and Gray gypsum board composite	<1% Chrysotile	PLM
021720KS-03D	2 nd floor mechanical room wall	White joint compound and Gray gypsum board composite	ND	PLM
021720KS-03E	2 nd floor event room wall	White joint compound and Gray gypsum board composite	ND	PLM
021720KS-03F	2 nd floor conference room ceiling	White joint compound and Gray gypsum board composite	ND	PLM
021720KS-03G	A side stairway ceiling	White joint compound and Gray gypsum board composite	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-04A	Second floor storage room next to kitchen	White popcorn textured ceiling paint	ND/ND	PLM/TEM
021720KS-04B	Second floor religious education classroom	White popcorn textured ceiling paint	ND	PLM
021720KS-04C	Second floor conference room	White popcorn textured ceiling paint	ND	PLM
021720KS-05A	1 st floor closet outside main entry	Brown 6"x6" ceramic tile	ND	PLM
021720KS-05B	1 st floor closet outside main entry	Brown 6"x6" ceramic tile	ND	PLM
021720KS-06A	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-06B	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-07A	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-07B	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile	ND	PLM
021720KS-08A	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-08B	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-09A	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile	ND/ND	PLM/TEM
021720KS-09B	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-10A	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-10B	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile	ND	PLM
021720KS-11A	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile	ND	PLM
021720KS-11B	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile	ND	PLM
021720KS-12A	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile	ND/ND	PLM/TEM
021720KS-12B	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile	ND	PLM
021720KS-13A	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet	ND/ND	PLM/TEM
021720KS-13B	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet	ND	PLM
021720KS-14A	1 st floor storage room next to chapel	Yellow glue associated with brown carpet	ND/ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-14B	1 st floor storage room next to chapel	Yellow glue associated with brown carpet	ND	PLM
021720KS-15A	1 st floor main entry	Warm gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-15B	1 st floor main entry	Warm gray 4" vinyl cove base	ND	PLM
021720KS-16A	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-16B	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base	ND	PLM
021720KS-17A	1 st floor chapel	White 2'x2' suspended ceiling tile with pockets and pinholes pattern	ND	PLM
021720KS-17B	1 st office area	White 2'x2' suspended ceiling tile with pockets and pinholes pattern	ND	PLM
021720KS-18A	1 st floor chapel	Tan glue on wall	ND/ND	PLM/TEM
021720KS-18B	1 st floor chapel	Tan glue on wall	ND	PLM
021720KS-19A	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet	ND/ND	PLM/TEM
021720KS-19B	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet	ND	PLM
021720KS-20A	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile	ND	PLM
021720KS-20B	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile	ND	PLM
021720KS-21A	1 st floor office area closet	Cool gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-21B	1 st floor office area closet	Cool gray 4" vinyl cove base	ND	PLM
021720KS-22A	1st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base	ND/0.85% Chrysotile	PLM/TEM
021720KS-22B	1 st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base	ND	PLM
021720KS-23A	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation	ND	PLM
021720KS-23B	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation	ND	PLM
021720KS-23C	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation	ND	PLM
021720KS-24A	1 st floor closet outside main entry	Concrete foundation	ND	PLM
021720KS-24B	1 st floor office area closet	Concrete foundation	ND	PLM
021720KS-25A	2 nd floor mechanical room interior wall	Interior brick wall	ND	PLM
021720KS-25B	B side exterior wall by side entry	Exterior brick wall	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-26A	2 nd floor mechanical room interior wall	Gray mortar associated with brick wall	ND	PLM
021720KS-26B	B side exterior wall by side entry	Gray mortar associated with brick wall	ND	PLM
021720KS-27A	B side exterior wall by side entry	Red patch mortar associated with brick wall	ND	PLM
021720KS-27B	C side exterior wall	Red patch mortar associated with brick wall	ND	PLM
021720KS-28A	2 nd floor kitchen	White with multicolor accents 12"x12" vinyl floor tile	ND/ND	PLM/TEM
021720KS-28B	2 nd floor loft above office area	White with multicolor accents 12"x12" vinyl floor tile	ND	PLM
021720KS-29A	2 nd floor kitchen	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile	ND/ND	PLM/TEM
021720KS-29B	2 nd floor loft above office area	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile	ND	PLM
021720KS-30A	2 nd floor kitchen	Dark gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-30B	2 nd floor kitchen	Dark gray 4" vinyl cove base	ND	PLM
021720KS-31A	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-31B	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base	ND	PLM
021720KS-32A	1 st floor chapel	Tan 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-32B	2 nd floor wash room	Tan 4" vinyl cove base	ND	PLM
021720KS-33A	1 st floor chapel	Tan glue associated with Tan 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-33B	2 nd floor wash room	Tan glue associated with Tan 4" vinyl cove base	ND	PLM
021720KS-34A	2 nd floor wash room	Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-34B	2 nd floor wash room	Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-35A	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-35B	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile	ND	PLM
021720KS-36A	2 nd floor men's bathroom	White 2"x2" ceramic floor tile	ND	PLM
021720KS-36B	2 nd floor men's bathroom	White 2"x2" ceramic floor tile	ND	PLM
021720KS-37A	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile	ND	PLM
021720KS-37B	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile	ND	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-38A	2 nd floor women's bathroom	Tan multicolor ceramic floor tile	ND	PLM
021720KS-38B	2 nd floor women's bathroom	Tan multicolor ceramic floor tile	ND	PLM
021720KS-39A	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile	ND/ND	PLM/TEM
021720KS-39B	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile	ND	PLM
021720KS-40A	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile	ND	PLM
021720KS-40B	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile	ND	PLM
021720KS-41A	2 nd floor women's bathroom	Sand 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-41B	2 nd floor women's bathroom	Sand 4" vinyl cove base	ND	PLM
021720KS-42A	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-42B	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base	ND	PLM
021720KS-43A	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-43B	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base	ND	PLM
021720KS-44A	2 nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base	ND/ND	PLM/TEM
021720KS-44B	2 nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base	ND	PLM
021720KS-45A	2 nd floor women's bathroom	White paper facing on fiberglass suspended ceiling tile	ND	PLM
021720KS-45B	2 nd floor men's bathroom	White paper facing on fiberglass suspended ceiling tile	ND	PLM
021720KS-46A	2 nd floor hallway	Off white fabric wallpaper	ND/ND	PLM/TEM
021720KS-46B	2 nd floor hallway	Off white fabric wallpaper	ND	PLM
021720KS-47A	2 nd floor former Castle bank office space	Yellow glue associated with gray carpet	ND/ND	PLM/TEM
021720KS-47B	2 nd floor hallway	Yellow glue associated with gray carpet	ND	PLM
021720KS-48A	Type 2 Door – Interior caulking	Brown caulking associated with type 2 door	ND/ND	PLM/TEM
021720KS-48B	Type 2 Door – Exterior caulking	Brown caulking associated with type 2 door	ND	PLM
021720KS-49A	Type 3 Door – Interior caulking	Dark gray caulking associated with type 3 door	ND/ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
021720KS-49B	Type 3 Door – Exterior caulking	Dark gray caulking associated with type 3 door	ND	PLM
021720KS-50A	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door	ND/ND	PLM/TEM
021720KS-50B	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door	ND	PLM
021720KS-51A	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door	ND/3.0% Anthophyllite	PLM/TEM
021720KS-51B	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door	ND	PLM
021720KS-52A	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door	ND/ND	PLM/TEM
021720KS-52B	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door	ND	PLM
021720KS-53A	Type 1 Window – Exterior caulking – A Side	Gray caulking associated with type 1 window	ND/ND	PLM/TEM
021720KS-53B	Type 1 Window – Exterior caulking – C Side	Gray caulking associated with type 1 window	ND	PLM
021720KS-54A	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window	ND/ND	PLM/TEM
021720KS-54B	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window	ND	PLM
021720KS-55A	Bank drive through roof where metal meets brick façade	Gray caulking associated with portico wall	ND/ND	PLM/TEM
021720KS-55B	Side entry portico where metal meets brick façade	Gray caulking associated with portico wall	ND	PLM
021720KS-56A	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk	ND/ND	PLM/TEM
021720KS-56B	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk	ND	PLM
Supplemental Inspection 10/14/21				
101421KS-01A	Building C Side Louvres	Exterior gray caulking associated with louvres	ND/0.48% Anthophyllite	PLM/TEM
101421KS-01B	Building C Side Louvres	Gray caulking associated with louvres	ND	PLM
101421KS-02A	Drive through canopy roof - Field	Black lap sealant associated with membrane	ND/ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
101421KS-02B	Drive through canopy roof - Field	Black lap sealant associated with membrane	ND	PLM
101421KS-03A	Drive through canopy roof - Field	Black roofing membrane	ND/ND	PLM/TEM
101421KS-03B	Drive through canopy roof - Field	Black roofing membrane	ND	PLM
101421KS-04A	Drive through canopy roof - Field	Brown fiberboard	ND	PLM
101421KS-04B	Drive through canopy roof - Field	Brown fiberboard	ND	PLM
101421KS-05A	Drive through canopy roof - Flashing	Black flashing paper	15% Chrysotile	PLM
101421KS-05B	Drive through canopy roof - Flashing	Black flashing paper	NA/Pos stop	-
101421KS-06A	Drive through canopy roof - Flashing	Black flashing cement	7% Chrysotile	PLM
101421KS-06B	Drive through canopy roof - Flashing	Black flashing cement	NA/Pos stop	-
101421KS-07A	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall	ND/ND	PLM/TEM
101421KS-07B	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall	ND	PLM
101421KS-08A	Drive through canopy roof	Black caulking around roof drain	ND/ND	PLM/TEM
101421KS-08B	Drive through canopy roof	Black caulking around roof drain	ND	PLM
101421KS-09A	Drive through canopy roof	Black tar around roof drain	7% Chrysotile	PLM
101421KS-09B	Drive through canopy roof	Black tar around roof drain	NA/Pos stop	-
101421KS-10A	Main building roof – Flashing	Black flashing up parapet wall	15% Chrysotile	PLM
101421KS-10B	Main building roof – Flashing	Black flashing up parapet wall	NA/Pos stop	-
101421KS-11A	Main building roof – Flashing	Black flashing cement up parapet wall	7% Chrysotile	PLM
101421KS-11B	Main building roof – Flashing	Black flashing cement up parapet wall	NA/Pos stop	-
101421KS-12A	Main building roof - Penetrations	Penetration flashing cement	5% Chrysotile	PLM
101421KS-12B	Main building roof - Penetrations	Penetration flashing cement	NA/Pos stop	-
101421KS-13A	Main building roof – Flashing	Black caulking at top of metal flashing	5% Chrysotile	PLM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
101421KS-13B	Main building roof – Flashing	Black caulking at top of metal flashing	NA/Pos stop	-
101421KS-14A	Main building roof – Field	Black lap sealant associated with black membrane	ND/ND	PLM/TEM
101421KS-14B	Main building roof – Field	Black lap sealant associated with black membrane	ND	PLM
101421KS-15A	Main building roof – Field	Black membrane	ND/ND	PLM/TEM
101421KS-15B	Main building roof – Field	Black membrane	ND	PLM
101421KS-16A	Main building roof – Field	Gray paper associated with iso foam layers	ND	PLM
101421KS-16B	Main building roof – Field	Gray paper associated with iso foam layers	ND	PLM
101421KS-17A	Main building roof – Field	Brown fiberboard	ND	PLM
101421KS-17B	Main building roof – Field	Brown fiberboard	ND	PLM
101421KS-18A	Main building roof – Field	Black built up asphalt roofing	ND/ND	PLM/TEM
101421KS-18B	Main building roof – Field	Black built up asphalt roofing	ND	PLM
101421KS-19A	Main building roof – Field	Brown paper	<1% Chrysotile	PLM
101421KS-19B	Main building roof – Field	Brown paper	ND	PLM
101421KS-20A	Main building roof – Parapet Wall	Red terra cotta block mortar	ND	PLM
101421KS-20B	Main building roof – Parapet Wall	Red terra cotta block mortar	ND	PLM
101421KS-21A	Main building roof – Parapet Wall	Terra cotta parapet wall capstone	ND	PLM
101421KS-21B	Main building roof – Parapet Wall	Terra cotta parapet wall capstone	ND	PLM
101421KS-22A	Second floor mechanical room	Black flex connector associated with ductwork	ND/ND	PLM/TEM
101421KS-22B	Second floor mechanical room	Black flex connector associated with ductwork	ND	PLM
Supplemental Inspection 10/21/21				
102121KS-01A	Elevator Car	Tan adhesive associated with tan carpet	ND/<0.1% Chrysotile	PLM/TEM
102121KS-01B	Elevator Car	Tan adhesive associated with tan carpet	ND	PLM/TEM

Sample No.	Sample Location	Material Type	Asbestos Content	Analysis Method
102121KS-02A	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall	ND	PLM/TEM
102121KS-02B	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall	ND	PLM/TEM
102121KS-02C	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall	ND	PLM/TEM

NA/Pos Stop = Not Analyzed/Positive Stop

ND = None Detected

Table 2
Summary of Asbestos-Containing Materials and Materials Containing <1% Inventory

Location	Material Type	Asbestos Content	Estimated Total Quantity	Comments
1st Floor: Chapel, Side entry, Main entry, Closet, Mechanical Room, Storage room, Women's Bathroom, Men's bathroom, Office area, Office bathroom, and Stairways; 2nd Floor: Event room, Hallway, Kitchen, Small storage room, Large storage room, Washroom, Men's bathroom, Women's bathroom, Former bank main office area, Classroom, Conference room, office, HVAC mechanical room, and Loft	White joint compound associated with gypsum board walls and ceilings	2% Chrysotile	16,476 SF	Wall system including sheetrock will be considered ACM. Note that skim coat joint compound/plaster applied to CMU block in main entry is a different material and was ND for asbestos.
	White joint compound and gray gypsum board composite walls and ceilings	<1% Chrysotile		
1 st floor office area, 1st floor church office, 1st floor main entry	Tan glue associated with cool gray 4" vinyl cove base	0.85% Chrysotile	156 LF	None
Type 6 Door – Between Chapel and main entry vestibule Interior caulking	Dark brown caulking associated with type 6 door	3.0% Anthophyllite	25 LF 1 Door	None
Elevator Car	Tan adhesive associated with tan carpet	<0.1% Chrysotile	25 SF	Elevator is inoperable. Technician will likely be needed to provide access.
Building C Side Louvres	Gray caulking associated with louvres	0.48% Anthophyllite	40 LF	2 Louvres accessed from lift on the parking lot side
Drive through canopy roof and side entry portico roof - Flashing	Black flashing paper	15% Chrysotile	40 LF	Low roofs of drive through and portico where they attach to the brick wall of the building
Drive through canopy roof and side entry portico roof - Flashing	Black flashing cement	7% Chrysotile	40 LF	
Drive through canopy roof	Black tar around roof drain	7% Chrysotile	20 SF	Sampled where it leaked into the roof drain

Location	Material Type	Asbestos Content	Estimated Total Quantity	Comments
Main building roof – Flashing	Black flashing up parapet wall	15% Chrysotile	390 LF	At roof edges up parapet wall and middle divider wall
Main building roof – Flashing	Black flashing cement up parapet wall	7% Chrysotile	390 LF	
Main building roof - Penetrations	Penetration flashing cement	5% Chrysotile	130 SF	None
Main building roof – Flashing	Black caulking at top of metal flashing	5% Chrysotile	390 SF	Termination bar calking
Main building roof – Field	Brown paper	<1% Chrysotile	4,400 SF	Bottom layer paper below built-up asphalt roof

LF = Linear Feet; SF = Square Feet

Table 3
Presumed PCB Containing Material Inventory

Location	Material Type	PCB Content	Estimated Total Quantity	Comments
Type 2 Door – Interior Caulking	Brown Caulking associated with Type 2 Door	Presumed >50 PPM	22 LF 1 Door	Non-asbestos containing
Type 3 Door – Interior Caulking	Dark Gray Caulking associated with Type 3 Door	Presumed >50 PPM	22.75 LF 1 Door	Non-asbestos containing
Type 4 Door – Exterior Caulking	Light Brown Caulking associated with Type 4 Door	Presumed >50 PPM	22 LF 1 Door	Non-asbestos containing
Type 5 Door – Interior Caulking	Dark Gray Caulking associated with Type 5 Door	Presumed >50 PPM	35 LF 1 Door	Non-asbestos containing
Type 6 Door – Interior Caulking	Dark Brown Caulking associated with Type 6 Door	Presumed >50 PPM	25 LF 1 Door	3.0% Anthophyllite
Type 7 Door – Interior Glazing	Light Gray Glazing associated with Type 7 Door	Presumed >50 PPM	12 LF 1 Door	Non-asbestos containing
Type 1 Windows - Throughout	Gray Caulking associated with Type 1 Window	Presumed >50 PPM	697 LF 41 Windows	Non-asbestos containing
Type 2 Windows - A Side Second Floor	Gray Caulking associated with Type 2 Window	Presumed >50 PPM	110 LF 5 Windows	Same as type 1 windows
Type 3 Windows - A Side Second Floor	Gray Caulking associated with Type 3 Window	Presumed >50 PPM	21 LF 1 Windows	Same as type 1 windows
Type 4 Windows - B And D Side Attic Level	Gray Caulking associated with Type 4 Window	Presumed >50 PPM	112 LF 8 Windows	Same as type 1 windows

Location	Material Type	PCB Content	Estimated Total Quantity	Comments
Type 5 Windows - Side Bank Drive Through Windows	Brown Caulking associated with Type 5 Window	Presumed >50 PPM	32 LF 2 Windows	Non-asbestos containing
Bank Drive Through Roof Where Metal Meets Brick Façade	Gray Caulking associated with Portico Wall	Presumed >50 PPM	12 LF	Non-asbestos containing
A Side Exterior By Sidewalk	Light Gray Exterior Horizontal Joint Caulking Between Building And Sidewalk	Presumed >50 PPM	155 LF	Non-asbestos containing
Building C Side Louvres	Gray caulking associated with louvres	Presumed >50 PPM	40 LF	0.48% Anthophyllite 2 Louvres accessed from lift on the parking lot side
All window openings and door openings	Adjacent Brick	Presumed >50 PPM	3,600 SF	All Adjacent Brick in contact with presumed PCBs Caulking compounds will be diamond cut and removed. Please refer to specifications for further instructions

PPM = Parts per million; LF = Linear Feet

Table 4
PCB/DEHP-Containing Light Ballasts Inventory

Type	Estimated Quantity
DEHP	45

Table 5
Mercury-Containing Equipment Inventory

Type	Estimated Quantity
2' Light Tubes	107
4' Light Tubes	44
Circular Light Tubes	1
U Shaped Light Tubes	2
Total Light Tubes	154
Emergency Lights	4
Exit Signs	6
High Intensity Discharge (HID) Light	5

Appendix A

Limitations

APPENDIX A

Site: 100 Hanover Street, Meriden, Connecticut

1. This inspection report has been prepared for the exclusive use of the City of Meriden (the "Client") and is subject to and is issued in connection with the terms and conditions of the original Agreement and all of its provisions. Any use or reliance upon information provided in this report, without the specific written authorization of the Client and Fuss & O'Neill, Inc. (Fuss & O'Neill) shall be at the User's individual risk. This report should not be used as an abatement specification. All quantities of materials identified during this inspection are approximate.
2. Fuss & O'Neill has obtained and relied upon information from multiple sources to form certain conclusions regarding likely environmental issues at and in the vicinity of the subject property in conducting this inspection. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information or verify compliance by any party with federal, state, or local laws or regulations.
3. Fuss & O'Neill has obtained and relied upon laboratory analytical results in conducting the inspection. This information was used to form conclusions regarding the types and quantities of ACM, LBP, and PCBs that must be managed prior to renovation or demolition activities that may disturb these materials at the Site. Fuss & O'Neill has not performed an independent review of the reliability of this laboratory data.
4. Unless otherwise noted, only suspect hazardous materials associated within or located on the building (aboveground) were included in this inspection. Suspect hazardous materials may exist below the ground surface that were not included in the scope of work of this inspection. Fuss & O'Neill cannot guarantee all asbestos or suspect hazardous materials were identified within the areas included in the scope of work. Only visible and accessible areas were included in the scope of work for this inspection.
5. The findings, observations and conclusions presented in this report are limited by the scope of services outlined in our written proposal dated April 30, 2021. Furthermore, the assessment has been conducted in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made.
6. The conclusions presented in this report are based solely upon information gathered by Fuss & O'Neill to date. Should further environmental or other relevant information be discovered at a later date, the Client should immediately bring the information to the Fuss & O'Neill's attention. Based upon an evaluation and assessment of relevant information, Fuss & O'Neill may modify the report and its conclusions.

Appendix B

Fuss & O'Neill Inspector License and Accreditations

1005746 SP

1164

-C01-P05753-I



KRISTINA M SNURKOWSKI
FUSS & O'NEILL INC
146 HARTFORD RD
MANCHESTER CT 06040-5992

Dear KRISTINA M SNURKOWSKI,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

DEIDRE S. GIFFORD, MD, MPH, ACTING COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

EMPLOYER'S COPY		
STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH		
NAME KRISTINA M SNURKOWSKI		
VALIDATION NO. 03-899962	CERTIFICATE NO. 000978	CURRENT THROUGH 08/31/22
PROFESSION ASBESTOS CONSULTANT-INSPECTOR		
 SIGNATURE	 ACTING COMMISSIONER	

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
ASBESTOS CONSULTANT-INSPECTOR

KRISTINA M SNURKOWSKI

CERTIFICATE NO.
000978

CURRENT THROUGH
08/31/22

VALIDATION NO.
03-899962

SIGNATURE
ACTING COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD		
STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH		
NAME KRISTINA M SNURKOWSKI		
VALIDATION NO. 03-899962	CERTIFICATE NO. 000978	CURRENT THROUGH 08/31/22
PROFESSION ASBESTOS CONSULTANT-INSPECTOR		
 SIGNATURE	 ACTING COMMISSIONER	

CERTIFICATE OF ACHIEVEMENT

This certifies that

Kristina Snurkowski

has successfully completed the
4 Hour Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

Course training provided via
a live Webinar.

conducted by

Exam Score: 96%

ATC Group Services LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch

Principal Instructor: Gregory Morsch

December 10, 2020

Date of Course

December 10, 2021

Expiration Date

Gregory Morsch

Regional Training Manager: Gregory Morsch

SIAR-6757

Certificate Number

December 10, 2020

Examination Date

1003497 SP

1164

-C01-P03502-I



KRISTINA M SNURKOWSKI
FUSS & O'NEILL INC
146 HARTFORD RD
MANCHESTER CT 06040-5992

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Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

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M.S.#12MQA
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www.ct.gov/dph/license

Sincerely,

DEIDRE S. GIFFORD, MD, MPH, ACTING COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
LEAD INSPECTOR

KRISTINA M SNURKOWSKI

CERTIFICATE NO.
002253
CURRENT THROUGH
08/31/22
VALIDATION NO.
03-897711

SIGNATURE
ACTING COMMISSIONER

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME

KRISTINA M SNURKOWSKI

VALIDATION NO.
03-897711

CERTIFICATE NO.
002253

CURRENT THROUGH
08/31/22

PROFESSION
LEAD INSPECTOR

SIGNATURE
ACTING COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME

KRISTINA M SNURKOWSKI

VALIDATION NO.
03-897711

CERTIFICATE NO.
002253

CURRENT THROUGH
08/31/22

PROFESSION
LEAD INSPECTOR

SIGNATURE
ACTING COMMISSIONER

CERT#: L-500-Virtual.319

CHEMSCOPE TRAINING DIVISION

LEAD INSPECTOR REFRESHER

8-HOUR TRAINING CERTIFICATE

Kristina M. Snurkowski

146 Hartford Road, Manchester CT

Has attended an 8-hour course on the subject discipline in English on
01/11/2021 and has passed a written examination.

The above individual has successfully completed the above training course approved in accordance with the Department of Public Health Standards established pursuant to Section 20-477 of the Connecticut General Statutes.

Course syllabus includes all required topics of State of Connecticut DPH and EPA.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (U.S.C. 1001 and 15 U.S. C. 2615), I certify that this training complies with all applicable requirements of Title IV of TSCA, 40 CFR part 745 and any other applicable Federal, State or local requirements.

Examination Score: 98%

Exam Date: 01/11/2021

Expiration Date: 01/11/2022



Daniel Sullivan
Training Manager

Chem Scope, Inc.
15 Moulthrop Street
North Haven CT 06473
Phone: 203.865.5605
www.chem-scope.com

Appendix C

Asbestos Laboratory Reports and Chain of Custody Forms



FUSS & O'NEILL

Fuss & O'Neill EMSL Customer No. ENVI54

www.fando.com

146 Hartford Road, Manchester, CT 06040

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 EMSL ANALYTICAL, INC.
 CARLE PLACE, NY

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Page 1 of 6

Date: 2/17/20

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

208

Project Name: City of Meriden - 100 Hannover Street

Project No. 20170932.C10

Task No.: 530

Site Address: 100 Hannover Street, Meriden, CT

Location: Commercial building

Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
021720KS-01A	1 st floor chapel wall	White joint compound associated with gypsum board
021720KS-01B	1 st floor office area closet wall	White joint compound associated with gypsum board
021720KS-01C	1 st floor storage room next to chapel wall	White joint compound associated with gypsum board
021720KS-01D	2 nd floor mechanical room wall	White joint compound associated with gypsum board
021720KS-01E	2 nd floor event room wall	White joint compound associated with gypsum board
021720KS-01F	2 nd floor conference room ceiling	White joint compound associated with gypsum board
021720KS-01G	A side stairway ceiling	White joint compound associated with gypsum board
021720KS-02A	1 st floor chapel wall	Gray gypsum board ceilings and walls
021720KS-02B	1 st floor office area closet wall	Gray gypsum board ceilings and walls
021720KS-02C	1 st floor storage room next to chapel wall	Gray gypsum board ceilings and walls
021720KS-02D	2 nd floor mechanical room wall	Gray gypsum board ceilings and walls
021720KS-02E	2 nd floor event room wall	Gray gypsum board ceilings and walls
021720KS-02F	2 nd floor conference room ceiling	Gray gypsum board ceilings and walls
021720KS-02G	A side stairway ceiling	Gray gypsum board ceilings and walls
021720KS-03A	1 st floor chapel wall	White joint compound and Gray gypsum board composite
021720KS-03B	1 st floor office area closet wall	White joint compound and Gray gypsum board composite
021720KS-03C	1 st floor storage room next to chapel wall	White joint compound and Gray gypsum board composite
021720KS-03D	2 nd floor mechanical room wall	White joint compound and Gray gypsum board composite
021720KS-03E	2 nd floor event room wall	White joint compound and Gray gypsum board composite
021720KS-03F	2 nd floor conference room ceiling	White joint compound and Gray gypsum board composite
021720KS-03G	A side stairway ceiling	White joint compound and Gray gypsum board composite
021720KS-04A	Second floor storage room next to kitchen	White popcorn textured ceiling paint
021720KS-04B	Second floor religious education classroom	White popcorn textured ceiling paint
021720KS-04C	Second floor conference room	White popcorn textured ceiling paint

262003961



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Page 2 of 6

Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-05A	1 st floor closet outside main entry	Brown 6"x6" ceramic tile
021720KS-05B	1 st floor closet outside main entry	Brown 6"x6" ceramic tile
021720KS-06A	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile
021720KS-06B	1 st floor closet outside main entry	Gray thinset associated with Brown 6"x6" ceramic tile
021720KS-07A	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile
021720KS-07B	1 st floor closet outside main entry	Gray grout associated with Brown 6"x6" ceramic tile
021720KS-08A	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile
021720KS-08B	1 st floor women's bathroom	Yellow and white 1"x1" ceramic floor tile
021720KS-09A	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile
021720KS-09B	1 st floor women's bathroom	Brown glue associated with Yellow and white 1"x1" ceramic floor tile
021720KS-10A	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile
021720KS-10B	1 st floor women's bathroom	Gray grout associated with Yellow and white 1"x1" ceramic floor tile
021720KS-11A	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile
021720KS-11B	1 st floor women's bathroom	Yellow 4"x4" ceramic wall tile
021720KS-12A	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile
021720KS-12B	1 st floor women's bathroom	Brown glue associated with Yellow 4"x4" ceramic wall tile
021720KS-13A	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet
021720KS-13B	1 st floor office area closet	Yellow glue associated with blue and multicolor carpet
021720KS-14A	1 st floor storage room next to chapel	Yellow glue associated with brown carpet
021720KS-14B	1 st floor storage room next to chapel	Yellow glue associated with brown carpet
021720KS-15A	1 st floor main entry	Warm gray 4" vinyl cove base
021720KS-15B	1 st floor main entry	Warm gray 4" vinyl cove base
021720KS-16A	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base
021720KS-16B	1 st floor main entry	Tan glue associated with Warm gray 4" vinyl cove base
021720KS-17A	1 st floor chapel	White 2'x2' suspended ceiling tile with pockets and pinholes pattern
021720KS-17B	1 st office area	White 2'x2' suspended ceiling tile with pockets and pinholes pattern

Justin Valles 2/17/20

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Page 3 of 6

Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-18A	1 st floor chapel	Tan glue on wall
021720KS-18B	1 st floor chapel	Tan glue on wall
021720KS-19A	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet
021720KS-19B	1 st floor chapel	Yellow glue associated with brown and tan line pattern carpet
021720KS-20A	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile
021720KS-20B	1 st floor closet outside main entry	Fluffy white 2'x2' suspended ceiling tile
021720KS-21A	1 st floor office area closet	Cool gray 4" vinyl cove base
021720KS-21B	1 st floor office area closet	Cool gray 4" vinyl cove base
021720KS-22A	1 st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base
021720KS-22B	1 st floor office area closet	Tan glue associated with Cool gray 4" vinyl cove base
021720KS-23A	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation
021720KS-23B	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation
021720KS-23C	1 st floor closet outside main entry	White paper jacket associated with fiberglass pipe insulation
021720KS-24A	1 st floor closet outside main entry	Concrete foundation
021720KS-24B	1 st floor office area closet	Concrete foundation
021720KS-25A	2 nd floor mechanical room interior wall	Interior brick wall
021720KS-25B	B side exterior wall by side entry	Exterior brick wall
021720KS-26A	2 nd floor mechanical room interior wall	Gray mortar associated with brick wall
021720KS-26B	B side exterior wall by side entry	Gray mortar associated with brick wall
021720KS-27A	B side exterior wall by side entry	Red patch mortar associated with brick wall
021720KS-27B	C side exterior wall	Red patch mortar associated with brick wall
021720KS-28A	2 nd floor kitchen	White with multicolor accents 12"x12" vinyl floor tile
021720KS-28B	2 nd floor loft above office area	White with multicolor accents 12"x12" vinyl floor tile
021720KS-29A	2 nd floor kitchen	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile
021720KS-29B	2 nd floor loft above office area	Yellow glue associated with White with multicolor accents 12"x12" vinyl floor tile
021720KS-30A	2 nd floor kitchen	Dark gray 4" vinyl cove base
021720KS-30B	2 nd floor kitchen	Dark gray 4" vinyl cove base

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Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-31A	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base
021720KS-31B	2 nd floor kitchen	Off white glue associated with Dark gray 4" vinyl cove base
021720KS-32A	1 st floor chapel	Tan 4" vinyl cove base
021720KS-32B	2 nd floor wash room	Tan 4" vinyl cove base
021720KS-33A	1 st floor chapel	Tan glue associated with Tan 4" vinyl cove base
021720KS-33B	2 nd floor wash room	Tan glue associated with Tan 4" vinyl cove base
021720KS-34A	2 nd floor wash room	Off white 4"x4" ceramic floor tile
021720KS-34B	2 nd floor wash room	Off white 4"x4" ceramic floor tile
021720KS-35A	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile
021720KS-35B	2 nd floor wash room	Gray thin set associated with Off white 4"x4" ceramic floor tile
021720KS-36A	2 nd floor men's bathroom	White 2"x2" ceramic floor tile
021720KS-36B	2 nd floor men's bathroom	White 2"x2" ceramic floor tile
021720KS-37A	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile
021720KS-37B	2 nd floor men's bathroom	Gray grout associated with White 2"x2" ceramic floor tile
021720KS-38A	2 nd floor women's bathroom	Tan multicolor ceramic floor tile
021720KS-38B	2 nd floor women's bathroom	Tan multicolor ceramic floor tile
021720KS-39A	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile
021720KS-39B	2 nd floor women's bathroom	Yellow glue associated with Tan multicolor ceramic floor tile
021720KS-40A	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile
021720KS-40B	2 nd floor women's bathroom	Brown grout associated with Tan multicolor ceramic floor tile
021720KS-41A	2 nd floor women's bathroom	Sand 4" vinyl cove base
021720KS-41B	2 nd floor women's bathroom	Sand 4" vinyl cove base
021720KS-42A	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base
021720KS-42B	2 nd floor women's bathroom	Brown glue associated with Sand 4" vinyl cove base
021720KS-43A	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base
021720KS-43B	2 nd floor religious education classroom	Blueish gray 4" vinyl cove base
021720KS-44A	2 nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base

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Page 5 of 6

Date: 2/17/20

Sample ID	Sample Location	Type of Material
021720KS-44B	2nd floor religious education classroom	Tan glue associated with Blueish gray 4" vinyl cove base
021720KS-45A	2nd floor women's bathroom	White paper facing on fiberglass suspended ceiling tile
021720KS-45B	2nd floor men's bathroom	White paper facing on fiberglass suspended ceiling tile
021720KS-46A	2nd floor hallway	Off white fabric wallpaper
021720KS-46B	2nd floor hallway	Off white fabric wallpaper
021720KS-47A	2nd floor former Castle bank office space	Yellow glue associated with gray carpet
021720KS-47B	2nd floor hallway	Yellow glue associated with gray carpet
021720KS-48A	Type 2 Door – Interior caulking	Brown caulking associated with type 2 door
021720KS-48B	Type 2 Door – Exterior caulking	Brown caulking associated with type 2 door
021720KS-49A	Type 3 Door – Interior caulking	Dark gray caulking associated with type 3 door
021720KS-49B	Type 3 Door – Exterior caulking	Dark gray caulking associated with type 3 door
021720KS-50A	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door
021720KS-50B	Type 4 Door – Exterior caulking	Light brown caulking associated with type 4 door
021720KS-51A	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door
021720KS-51B	Type 6 Door – Interior caulking	Dark brown caulking associated with type 6 door
021720KS-52A	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door
021720KS-52B	Type 7 Door – Interior glazing	Light gray glazing associated with type 7 door
021720KS-53A	Type 1 Window – Exterior caulking – A Side	Gray caulking associated with type 1 window
021720KS-53B	Type 1 Window – Exterior caulking – C Side	Gray caulking associated with type 1 window
021720KS-54A	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window
021720KS-54B	Type 5 Window – Exterior caulking – C Side	Brown caulking associated with type 5 window
021720KS-55A	Bank drive through roof where metal meets brick façade	Gray caulking associated with portico wall
021720KS-55B	Side entry portico where metal meets brick façade	Gray caulking associated with portico wall
021720KS-56A	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk
021720KS-56B	A side exterior by sidewalk	Light gray exterior horizontal joint caulking between building and sidewalk

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SEE NEXT PAGE

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Page 6 of 6

Date: 2/17/20

Analysis Method: ☒ PLM ☐ TEM ☐ Other _____

Turnaround Time: 5 Days

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 2/27/2020 Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and cteidor@fando.com

Do Not Mail Hard Copy Report

Total # of Samples: 129

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise. Do not analyze samples 03 A to G unless 01 A to G or 02 A to G contains >1% asbestos. (2) (2)

Samples collected by: Kristina Snurkowski Date: 2/17/20 - 2/18/20 Time: 8:00 AM - 3:30 PM

Samples Sent by: Kristina Snurkowski Date: 2/21/2020 Time: 4:30 PM

Samples Received by: Unique McCoy Date: 2/22/20 Time: 10:09 AM

Shipped To: ☒ EMSL ☐ Other _____Method of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other _____

Justin Valle 2/24/20

D. R. R. 2/24/20

4/22 2-27-20 11:10 PM

062003961



EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514

Tel/Fax: (516) 997-7251 / (516) 997-7528

<http://www.EMSL.com> / carleplacelab@emsl.com

EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Attention: Carlos Texidor
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 510-4365

Fax:

Received Date: 02/22/2020 10:09 AM

Analysis Date: 02/24/2020

Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-01A 062003961-0001	1st floor - chapel - wall - White joint compound associated with gypsum board	White Non-Fibrous Homogeneous	3% Cellulose	95% Non-fibrous (Other)	2% Chrysotile
021720KS-01B 062003961-0002	1st floor - office area closet - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01C 062003961-0003	1st floor - stage room next to chapel - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01D 062003961-0004	2nd floor - mechanical room - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01E 062003961-0005	2nd floor - event room - wall - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01F 062003961-0006	2nd floor - conference room - ceiling - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-01G 062003961-0007	A-Side - stairway - ceiling - White joint compound associated with gypsum board				Positive Stop (Not Analyzed)
021720KS-02A 062003961-0008	1st floor - chapel - wall - Gray gypsum board - ceilings and walls	Gray Non-Fibrous Homogeneous	5% Cellulose 4% Glass	91% Non-fibrous (Other)	None Detected
021720KS-02B 062003961-0009	1st floor - office area closet - wall - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	7% Cellulose	93% Non-fibrous (Other)	None Detected
021720KS-02C 062003961-0010	1st floor - storage room next to chapel - wall - Gray gypsum board - ceilings and walls	Gray Non-Fibrous Homogeneous	7% Cellulose	93% Non-fibrous (Other)	None Detected
021720KS-02D 062003961-0011	2nd floor - mechanical room - wall - Gray gypsum board - ceilings and walls	Gray Non-Fibrous Homogeneous	6% Cellulose	94% Non-fibrous (Other)	None Detected

Initial report from: 02/27/2020 23:13:50



EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514

Tel/Fax: (516) 997-7251 / (516) 997-7528

<http://www.EMSL.com / carleplacelab@emsl.com>

EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-02E 062003961-0012	2nd floor - event room - wall - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
021720KS-02F 062003961-0013	2nd floor - conference room - ceiling - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
021720KS-02G 062003961-0014	A-Side - stairway - ceiling - Gray gypsum board - ceilings and walls	White Non-Fibrous Homogeneous	5% Cellulose 3% Glass	92% Non-fibrous (Other)	None Detected
021720KS-03A 062003961-0015	1st floor - chapel - wall - White joint compound and gray gypsum board (composite)	Gray/White Non-Fibrous Heterogeneous	5% Cellulose 2% Glass	93% Non-fibrous (Other)	<1% Chrysotile
021720KS-03B 062003961-0016	1st floor - office area closet - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (Other)	<1% Chrysotile
021720KS-03C 062003961-0017	1st floor - storage room next to chapel - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	6% Cellulose 4% Glass	90% Non-fibrous (Other)	<1% Chrysotile
021720KS-03D 062003961-0018	2nd floor - mechanical room - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
021720KS-03E 062003961-0019	2nd floor - event room - wall - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
021720KS-03F 062003961-0020	2nd floor - conference room - ceiling - White joint compound and gray gypsum board (composite)	White/Beige Non-Fibrous Heterogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
021720KS-03G 062003961-0021	A-Side - stairway - ceiling - White joint compound and gray gypsum board (composite)	White Non-Fibrous Heterogeneous	6% Cellulose	94% Non-fibrous (Other)	None Detected
021720KS-04A 062003961-0022	Second floor - stage room next to kitchen - White popcorn textured ceiling paint	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-04B 062003961-0023	Second floor - religious education classroom - White popcorn textured ceiling paint	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 02/27/2020 23:13:50



EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514

Tel/Fax: (516) 997-7251 / (516) 997-7528

<http://www.EMSL.com> / carleplacelab@emsl.com

EMSL Order: 062003961

Customer ID: ENVI54

Customer PO: 20179032.C10

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-04C 062003961-0024	Second floor - conference room - White popcorn textured ceiling paint	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-05A 062003961-0025	1st floor - closet outside main entry - Brown 6"x6" ceramic tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-05B 062003961-0026	1st floor - closet outside main entry - Brown 6"x6" ceramic tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-06A 062003961-0027	1st floor - closet outside main entry - Gray thinset associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-06B 062003961-0028	1st floor - closet outside main entry - Gray thinset associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-07A 062003961-0029	1st floor - closet outside main entry - Gray grout associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-07B 062003961-0030	1st floor - closet outside main entry - Gray grout associated with brown 6"x6" ceramic tile	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
021720KS-08A 062003961-0031	1st floor - women's bathroom - Yellow and white 1"x1" ceramic floor tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-08B 062003961-0032	1st floor - women's bathroom - Yellow and white 1"x1" ceramic floor tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-09A 062003961-0033	1st floor - women's bathroom - Brown glue associated with yellow and white 1"x1" ceramic floor tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-09B 062003961-0034	1st floor - women's bathroom - Brown glue associated with yellow and white 1"x1" ceramic floor tile	Brown Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-10A 062003961-0035	1st floor - women's bathroom - Gray grout associated with yellow and white 1"x1" ceramic floor tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-10B 062003961-0036	1st floor - women's bathroom - Gray grout associated with yellow and white 1"x1" ceramic floor tile	Gray Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-11A 062003961-0037	1st floor - women's bathroom - Yellow 4"x4" ceramic wall tile	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-11B 062003961-0038	1st floor - women's bathroom - Yellow 4"x4" ceramic wall tile	White/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-12A 062003961-0039	1st floor - women's bathroom - Brown glue associated with yellow 4"x4" ceramic wall tile	Brown Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	None Detected
021720KS-12B 062003961-0040	1st floor - women's bathroom - Brown glue associated with yellow 4"x4" ceramic wall tile	Brown Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
021720KS-13A 062003961-0041	1st floor - office area closet - Yellow glue associated with blue and multicolor carpet	Yellow Non-Fibrous Homogeneous	2% Synthetic	98% Non-fibrous (Other)	None Detected
021720KS-13B 062003961-0042	1st floor - office area closet - Yellow glue associated with blue and multicolor carpet	Yellow Non-Fibrous Homogeneous	2% Synthetic	98% Non-fibrous (Other)	None Detected
021720KS-14A 062003961-0043	1st floor - storage room next to chapel - Yellow glue associated with brown carpet	Yellow Non-Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (Other)	None Detected
021720KS-14B 062003961-0044	1st floor - storage room next to chapel - Yellow glue associated with brown carpet	Yellow Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
021720KS-15A 062003961-0045	1st floor - main entry - Warm gray 4" vinyl cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-15B 062003961-0046	1st floor - main entry - Warm gray 4" vinyl cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-16A 062003961-0047	1st floor - main entry - Tan glue associated with warm gray 4" vinyl cove base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-16B 062003961-0048	1st floor - main entry - Tan glue associated with warm gray 4" vinyl cove base	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-17A 062003961-0049	1st floor - chapel - White 2'x2' suspended ceiling tile with pockets and pinholes pattern	Gray/White Fibrous Heterogeneous	45% Cellulose 15% Min. Wool	40% Non-fibrous (Other)	None Detected
021720KS-17B 062003961-0050	1st floor - office area - White 2'x2' suspended ceiling tile with pockets and pinholes pattern	Gray/White Fibrous Heterogeneous	50% Cellulose 10% Min. Wool	40% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-18A 062003961-0051	1st floor - chapel - Tan glue on wall	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-18B 062003961-0052	1st floor - chapel - Tan glue on wall	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-19A 062003961-0053	1st floor - chapel - Yellow glue associated with brown and tan line pattern carpet	Yellow Non-Fibrous Homogeneous	11% Cellulose	89% Non-fibrous (Other)	None Detected
021720KS-19B 062003961-0054	1st floor - chapel - Yellow glue associated with brown and tan line pattern carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-20A 062003961-0055	1st floor - closet outside main entry - Fluffy white 2'x2' suspended ceiling tile	White Fibrous Homogeneous	20% Min. Wool	80% Non-fibrous (Other)	None Detected
021720KS-20B 062003961-0056	1st floor - closet outside main entry - Fluffy white 2'x2' suspended ceiling tile	White Fibrous Homogeneous	17% Min. Wool	83% Non-fibrous (Other)	None Detected
021720KS-21A 062003961-0057	1st floor - office area closet - Cool gray 4" vinyl cove base	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-21B 062003961-0058	1st floor - office area closet - Cool gray 4" vinyl cove base	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-22A 062003961-0059	1st floor - office area closet - Tan glue associated with cool gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous	<1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-22B 062003961-0060	1st floor - office area closet - Tan glue associated with cool gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-23A 062003961-0061	1st floor - closet outside main entry - White paper jacket associated with fiberglass pipe insulation	Tan/Silver Fibrous Homogeneous	57% Cellulose 36% Min. Wool	7% Non-fibrous (Other)	None Detected
021720KS-23B 062003961-0062	1st floor - closet outside main entry - White paper jacket associated with fiberglass pipe insulation	Tan/Silver Fibrous Homogeneous	58% Cellulose 37% Min. Wool	5% Non-fibrous (Other)	None Detected
021720KS-23C 062003961-0063	1st floor - closet outside main entry - White paper jacket associated with fiberglass pipe insulation	Tan/Silver Fibrous Homogeneous	51% Cellulose 36% Min. Wool	13% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-24A 062003961-0064	1st floor - closet outside main entry - Concrete foundation	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-24B 062003961-0065	1st floor - office area closet - Concrete foundation	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-25A 062003961-0066	2nd floor - mechanical room - interior wall - Interior brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-25B 062003961-0067	B-Side - exterior wall by side entry - Exterior brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-26A 062003961-0068	2nd floor - mechanical room - interior wall - Gray mortar associated with brick wall	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-26B 062003961-0069	B-Side - exterior wall by side entry - Gray mortar associated with brick wall	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-27A 062003961-0070	B-Side - exterior wall by side entry - Red patch mortar associated with brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-27B 062003961-0071	C-Side - exterior wall - Red patch mortar associated with brick wall	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-28A 062003961-0072	2nd floor - kitchen - White multicolor accents 12"x12" vinyl floor tile	White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-28B 062003961-0073	2nd floor - loft above office area - White multicolor accents 12"x12" vinyl floor tile	White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-29A 062003961-0074	2nd floor - kitchen - Yellow glue associated with white with multicolor accents 12"x12" vinyl floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-29B 062003961-0075	2nd floor - loft above office area - Yellow glue associated with white with multicolor accents 12"x12" vinyl floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-30A 062003961-0076	2nd floor - kitchen - Dark gray 4" vinyl cove base	Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-30B 062003961-0077	2nd floor - kitchen - Dark gray 4" vinyl cove base	Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-31A <i>062003961-0078</i>	2nd floor - kitchen - Off-White glue associated with dark gray 4" vinyl cove base	White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-31B <i>062003961-0079</i>	2nd floor - kitchen - Off-White glue associated with dark gray 4" vinyl cove base	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-32A <i>062003961-0080</i>	1st floor - chapel - Tan 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-32B <i>062003961-0081</i>	2nd floor - wash room - Tan 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-33A <i>062003961-0082</i>	1st floor - chapel - Tan glue associated with tan 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-33B <i>062003961-0083</i>	2nd floor - wash room - Tan glue associated with tan 4" vinyl cove base	Brown/Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-34A <i>062003961-0084</i>	2nd floor - wash room - Off-White 4"x4" ceramic floor tile	Brown/White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-34B <i>062003961-0085</i>	2nd floor - wash room - Off-White 4"x4" ceramic floor tile	Brown/White Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-35A <i>062003961-0086</i>	2nd floor - wash room - Gray thinset associated with off-white 4"x4" ceramic floor tile	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-35B <i>062003961-0087</i>	2nd floor - wash room - Gray thinset associated with off-white 4"x4" ceramic floor tile	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-36A <i>062003961-0088</i>	2nd floor - men's bathroom - White 2"x2" ceramic floor tile <i>Mastic associated with ceramic floor tile not included in analysis.</i>	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-36B <i>062003961-0089</i>	2nd floor - men's bathroom - White 2"x2" ceramic floor tile <i>Mastic associated with ceramic floor tile not included in analysis.</i>	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-37A <i>062003961-0090</i>	2nd floor - men's bathroom - Gray grout associated with white 2"x2" ceramic floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected



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Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
021720KS-37B 062003961-0091	2nd floor - men's bathroom - Gray grout associated with white 2"x2" ceramic floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-38A 062003961-0092	2nd floor - women's bathroom - Tan multicolor ceramic floor tile	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-38B 062003961-0093	2nd floor - women's bathroom - Tan multicolor ceramic floor tile	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-39A 062003961-0094	2nd floor - women's bathroom - Yellow glue associated with tan multicolor ceramic floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-39B 062003961-0095	2nd floor - women's bathroom - Yellow glue associated with tan multicolor ceramic floor tile	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-40A 062003961-0096	2nd floor - women's bathroom - Brown grout associated with tan multicolor ceramic floor tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-40B 062003961-0097	2nd floor - women's bathroom - Brown grout associated with tan multicolor ceramic floor tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-41A 062003961-0098	2nd floor - women's bathroom - Sand 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-41B 062003961-0099	2nd floor - women's bathroom - Sand 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-42A 062003961-0100	2nd floor - women's bathroom - Brown glue associated with sand 4" vinyl cove base	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-42B 062003961-0101	2nd floor - women's bathroom - Brown glue associated with sand 4" vinyl cove base	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-43A 062003961-0102	2nd floor - religious education classroom - Blueish gray 4" vinyl cove base	Gray/Blue Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-43B 062003961-0103	2nd floor - religious education classroom - Blueish gray 4" vinyl cove base	Gray/Blue Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-44A 062003961-0104	2nd floor - religious education classroom - Tan glue associated with blueish gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-44B 062003961-0105	2nd floor - religious education classroom - Tan glue associated with blueish gray 4" vinyl cove base	Tan Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
021720KS-45A 062003961-0106	2nd floor - women's bathroom - White paper facing on fiberglass suspended ceiling tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-45B 062003961-0107	2nd floor - men's bathroom - White paper facing on fiberglass suspended ceiling tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-46A 062003961-0108	2nd floor - hallway - Off-White fabric wallpaper	White Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-46B 062003961-0109	2nd floor - hallway - Off-White fabric wallpaper	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-47A 062003961-0110	2nd floor - former castle bank office space - Yellow glue associated with gray carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-47B 062003961-0111	2nd floor - hallway - Yellow glue associated with gray carpet	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-48A 062003961-0112	Type 2 door - interior caulking - Brown caulking associated with type 2 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-48B 062003961-0113	Type 2 door - exterior caulking - Brown caulking associated with type 2 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-49A 062003961-0114	Type 3 door - interior caulking - Dark gray caulking associated with type 3 door	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-49B 062003961-0115	Type 3 door - exterior caulking - Dark gray caulking associated with type 3 door	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-50A 062003961-0116	Type 4 door - exterior caulking - Light brown caulking associated with type 4 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-50B 062003961-0117	Type 4 door - exterior caulking - Light brown caulking associated with type 4 door	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
021720KS-51A 062003961-0118	Type 6 door - interior caulking - Dark brown caulking associated with type 6 door	Brown Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-51B 062003961-0119	Type 6 door - interior caulking - Dark brown caulking associated with type 6 door	Brown Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-52A 062003961-0120	Type 7 door - interior glazing - Light gray glazing associated with type 7 door	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-52B 062003961-0121	Type 7 door - interior glazing - Light gray glazing associated with type 7 door	Gray Non-Fibrous Homogeneous	2% Fibrous (Other)	98% Non-fibrous (Other)	None Detected
021720KS-53A 062003961-0122	Type 1 window - exterior caulking - A side - Gray caulking associated with type 1 window	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-53B 062003961-0123	Type 1 window - exterior caulking - C side - Gray caulking associated with type 1 window	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-54A 062003961-0124	Type 5 window - exterior caulking - C side - Brown caulking associated with type 5 window	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-54B 062003961-0125	Type 5 window - exterior caulking - C side - Brown caulking associated with type 5 window	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-55A 062003961-0126	Bank drive through roof where metal meets brick façade - Gray caulking associated with portico wall	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-55B 062003961-0127	Side entry portico where metal meets brick façade - Gray caulking associated with portico wall	Gray Non-Fibrous Homogeneous	<1% Wollastonite <1% Fibrous (Other)	100% Non-fibrous (Other)	None Detected
021720KS-56A 062003961-0128	A-Side - exterior by sidewalk - Light gray exterior horizontal joint caulking between building and sidewalk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
021720KS-56B 062003961-0129	A-Side - exterior by sidewalk - Light gray exterior horizontal joint caulking between building and sidewalk	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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Analyst(s)

Justin Valles (75)

Omatie Ramrattan-Scarallo (48)

Daniel Clarke, Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. 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 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. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. 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. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY NVLAP Lab Code 101048-10, CA ELAP 2339, NYS ELAP 11469

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Received Date: 02/22/2020 10:09 AM
Analysis Date: 02/27/2020
Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
021720KS-04A 062003961-0022	Second floor - stage room next to kitchen - White popcorn textured ceiling paint	Tan/White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-09A 062003961-0033	1st floor - women's bathroom - Brown glue associated with yellow and white 1"x1" ceramic floor tile	Brown Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-12A 062003961-0039	1st floor - women's bathroom - Brown glue associated with yellow 4"x4" ceramic wall tile	Brown Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-13A 062003961-0041	1st floor - office area closet - Yellow glue associated with blue and multicolor carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-14A 062003961-0043	1st floor - storage room next to chapel - Yellow glue associated with brown carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-15A 062003961-0045	1st floor - main entry - Warm gray 4" vinyl cove base	Gray Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-16A 062003961-0047	1st floor - main entry - Tan glue associated with warm gray 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-18A 062003961-0051	1st floor - chapel - Tan glue on wall	Tan Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-19A 062003961-0053	1st floor - chapel - Yellow glue associated with brown and tan line pattern carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-21A 062003961-0057	1st floor - office area closet - Cool gray 4" vinyl cove base	Gray Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-22A 062003961-0059	1st floor - office area closet - Tan glue associated with cool gray 4" vinyl cove base	Tan Fibrous Homogeneous	99.15 Other	None	0.85% Chrysotile

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Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from: 02/27/2020 23:13:44



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EMSL Order: 062003961
Customer ID: ENVI54
Customer PO: 20179032.C10
Project ID:

Attention: Carlos Texidor
 Fuss & O'Neill, Inc.
 146 Hartford Road
 Manchester, CT 06040

Phone: (860) 510-4365
Fax:
Received Date: 02/22/2020 10:09 AM
Analysis Date: 02/27/2020
Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
021720KS-28A 062003961-0072	2nd floor - kitchen - White multicolor accents 12"x12" vinyl floor tile	White Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-29A 062003961-0074	2nd floor - kitchen - Yellow glue associated with white with multicolor accents 12"x12" vinyl floor tile	Yellow Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-30A 062003961-0076	2nd floor - kitchen - Dark gray 4" vinyl cove base	Black Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-31A 062003961-0078	2nd floor - kitchen - Off-White glue associated with dark gray 4" vinyl cove base	White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-32A 062003961-0080	1st floor - chapel - Tan 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-33A 062003961-0082	1st floor - chapel - Tan glue associated with tan 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-39A 062003961-0094	2nd floor - women's bathroom - Yellow glue associated with tan multicolor ceramic floor tile	Yellow Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-41A 062003961-0098	2nd floor - women's bathroom - Sand 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-42A 062003961-0100	2nd floor - women's bathroom - Brown glue associated with sand 4" vinyl cove base	Brown Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-43A 062003961-0102	2nd floor - religious education classroom - Blueish gray 4" vinyl cove base	Gray/Blue Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
021720KS-44A 062003961-0104	2nd floor - religious education classroom - Tan glue associated with blueish gray 4" vinyl cove base	Tan Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

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Initial report from: 02/27/2020 23:13:44



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EMSL Order: 062003961
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Attention: Carlos Texidor
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 Manchester, CT 06040

Phone: (860) 510-4365
Fax:
Received Date: 02/22/2020 10:09 AM
Analysis Date: 02/27/2020
Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
021720KS-46A 062003961-0108	2nd floor - hallway - Off-White fabric wallpaper	White Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-47A 062003961-0110	2nd floor - former castle bank office space - Yellow glue associated with gray carpet	Yellow Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-48A 062003961-0112	Type 2 door - interior caulking - Brown caulking associated with type 2 door	Brown Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-49A 062003961-0114	Type 3 door - interior caulking - Dark gray caulking associated with type 3 door	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-50A 062003961-0116	Type 4 door - exterior caulking - Light brown caulking associated with type 4 door	Brown Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-51A 062003961-0118	Type 6 door - interior caulking - Dark brown caulking associated with type 6 door	Brown Fibrous Homogeneous	97.0 Other	None	3.0% Anthophyllite
021720KS-52A 062003961-0120	Type 7 door - interior glazing - Light gray glazing associated with type 7 door	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-53A 062003961-0122	Type 1 window - exterior caulking - A side - Gray caulking associated with type 1 window	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-54A 062003961-0124	Type 5 window - exterior caulking - C side - Brown caulking associated with type 5 window	Brown Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-55A 062003961-0126	Bank drive through roof where metal meets brick façade - Gray caulking associated with portico wall	Gray Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
021720KS-56A 062003961-0128	A-Side - exterior by sidewalk - Light gray exterior horizontal joint caulking between building and sidewalk	Gray Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

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Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from: 02/27/2020 23:13:44



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EMSL Order: 062003961
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Attention: Carlos Texidor
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Phone: (860) 510-4365

Fax:

Received Date: 02/22/2020 10:09 AM

Analysis Date: 02/27/2020

Collected Date: 02/17/2020

Project: City of Meriden- 100 Hannover Street, Meriden, CT, Commercial Building, Project # 20170932.C10, Task # 530

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
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Analyst(s)

Keith McWilliams (33)

Daniel Clarke, Asbestos Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Carle Place, NY

Initial report from: 02/27/2020 23:13:44



032119057

Date: 10/14/21

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Project Name: City of Meriden - 100 Hannover Street Project No. 20170932.C11 Task No.: 000500

Site Address: 100 Hannover Street, Meriden, CT Location: Roof and 2nd Floor Mech RM Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
101421KS-01A	Building C Side Louvres	Gray caulking associated with louvres
101421KS-01B	Building C Side Louvres	Gray caulking associated with louvres
101421KS-02A	Drive through canopy roof - Field	Black lap sealant associated with membrane
101421KS-02B	Drive through canopy roof - Field	Black lap sealant associated with membrane
101421KS-03A	Drive through canopy roof - Field	Black roofing membrane
101421KS-03B	Drive through canopy roof - Field	Black roofing membrane
101421KS-04A	Drive through canopy roof - Field	Brown fiberboard
101421KS-04B	Drive through canopy roof - Field	Brown fiberboard
101421KS-05A	Drive through canopy roof - Flashing	Black flashing paper
101421KS-05B	Drive through canopy roof - Flashing	Black flashing paper
101421KS-06A	Drive through canopy roof - Flashing	Black flashing cement
101421KS-06B	Drive through canopy roof - Flashing	Black flashing cement
101421KS-07A	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall
101421KS-07B	Drive through canopy roof - Flashing	Black caulking at top of counterflashing for brick wall
101421KS-08A	Drive through canopy roof	Black caulking around roof drain
101421KS-08B	Drive through canopy roof	Black caulking around roof drain
101421KS-09A	Drive through canopy roof	Black tar around roof drain
101421KS-09B	Drive through canopy roof	Black tar around roof drain
101421KS-10A	Main building roof - Flashing	Black flashing up parapet wall
101421KS-10B	Main building roof - Flashing	Black flashing up parapet wall
101421KS-11A	Main building roof - Flashing	Black flashing cement up parapet wall
101421KS-11B	Main building roof - Flashing	Black flashing cement up parapet wall
101421KS-12A	Main building roof - Penetrations	Penetration flashing cement
101421KS-12B	Main building roof - Penetrations	Penetration flashing cement



FUSS & O'NEILL

Fuss & O'Neill EMSL Customer No. ENV154

www.fando.com

146 Hartford Road, Manchester, CT 06040

Phone (860) 646-2469

032119057

Page 2 of 3

Date: 10/14/21

Sample ID	Sample Location	Type of Material
101421KS-13A	Main building roof – Flashing	Black caulking at top of metal counter flashing
101421KS-13B	Main building roof – Flashing	Black caulking at top of metal counter flashing
101421KS-14A	Main building roof – Field	Black lap sealant associated with black membrane
101421KS-14B	Main building roof – Field	Black lap sealant associated with black membrane
101421KS-15A	Main building roof – Field	Black membrane
101421KS-15B	Main building roof – Field	Black membrane
101421KS-16A	Main building roof – Field	Gray paper associated with iso foam layers
101421KS-16B	Main building roof – Field	Gray paper associated with iso foam layers
101421KS-17A	Main building roof – Field	Brown fiberboard
101421KS-17B	Main building roof – Field	Brown fiberboard
101421KS-18A	Main building roof – Field	Black built up asphalt roofing
101421KS-18B	Main building roof – Field	Black built up asphalt roofing
101421KS-19A	Main building roof – Field	Brown paper
101421KS-19B	Main building roof – Field	Brown paper
101421KS-20A	Main building roof – Parapet Wall	Red terra cotta block mortar
101421KS-20B	Main building roof – Parapet Wall	Red terra cotta block mortar
101421KS-21A	Main building roof – Parapet Wall	Terra cotta parapet wall capstone
101421KS-21B	Main building roof – Parapet Wall	Terra cotta parapet wall capstone
101421KS-22A	Second floor mechanical room	Black flex connector associated with ductwork
101421KS-22B	Second floor mechanical room	Black flex connector associated with ductwork

Analysis Method: ☒ PLM ☐ TEM ☐ Other _____

Turnaround Time: PLM: 24 Hours TEM: 24 Hours

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 10/20/21 (PLM) / 10/21/21 (TEM). Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and ctexidor@fando.com

Do Not Mail Hard Copy Report

Total # of Samples: 44

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.



FUSS & O'NEILL

Fuss & O'Neill EMSL Customer No. ENVI54

www.fando.com

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Phone (860) 646-2469

032119057

Page 3 of 3

Date: 10/14/21

Samples collected by: Kristina Snurkowski Date: 10/14/21

Samples Sent by: Kristina Snurkowski Date: 10/18/21 Time: 4:30 PM

Samples Received by: Date: Time:

Shipped To: ☒ EMSL ☐ OtherMethod of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ OtherEMSL MATERIAL LAB
RECEIVED
2021 OCT 19 AM 10:0510-05AM
10/19/21



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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-01A 032119057-0001	BUILDING C SIDE LOUVERS - GRAY CAULKING ASSOCIATED WITH LOUVERS	Gray Non-Fibrous Homogeneous	2% Fibrous_Other	40% Ca Carbonate 58.0% Non-fibrous (Other)	None Detected
10142KS-01B 032119057-0002	BUILDING C SIDE LOUVERS - GRAY CAULKING ASSOCIATED WITH LOUVERS	Brown Non-Fibrous Homogeneous	3% Fibrous_Other	25% Ca Carbonate 72.0% Non-fibrous (Other)	None Detected
10142KS-02A 032119057-0003	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH MEMBRANE	Black Non-Fibrous Homogeneous	3% Cellulose	7% Quartz 30% Ca Carbonate 5% Mica 55.0% Non-fibrous (Other)	None Detected
10142KS-02B 032119057-0004	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH MEMBRANE	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected
10142KS-03A 032119057-0005	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK ROOFING MEMBRANE	Black Non-Fibrous Homogeneous		5% Mica 10% Perlite 85.0% Non-fibrous (Other)	None Detected
10142KS-03B 032119057-0006	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK ROOFING MEMBRANE	Black Non-Fibrous Homogeneous		15% Ca Carbonate 85.0% Non-fibrous (Other)	None Detected
10142KS-04A 032119057-0007	DRIVE THROUGH CANOPY ROOF - FIELD - BROWN FIBERBOARD	Brown Fibrous Homogeneous	80% Cellulose	3% Quartz 7% Ca Carbonate 10.0% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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146 Hartford Road
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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-04B 032119057-0008	DRIVE THROUGH CANOPY ROOF - FIELD - BROWN FIBERBOARD	Brown Fibrous Homogeneous	85% Cellulose	15.0% Non-fibrous (Other)	None Detected
10142KS-05A 032119057-0009	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING PAPER	Black Non-Fibrous Homogeneous	3% Cellulose	10% Quartz 7% Ca Carbonate 65.0% Non-fibrous (Other)	15% Chrysotile
10142KS-05B 032119057-0010	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING PAPER				Positive Stop (Not Analyzed)
10142KS-06A 032119057-0011	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING CEMENT	Black Fibrous Homogeneous	30% Cellulose 5% Glass	5% Quartz 10% Ca Carbonate 43.0% Non-fibrous (Other)	7% Chrysotile
10142KS-06B 032119057-0012	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK FLASHING CEMENT				Positive Stop (Not Analyzed)
10142KS-07A 032119057-0013	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK CAULKING AT TOP OF COUNTER FLASHING FOR BRICK WALL	Black Non-Fibrous Homogeneous		5% Quartz 20% Ca Carbonate 75.0% Non-fibrous (Other)	None Detected
10142KS-07B 032119057-0014	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK CAULKING AT TOP OF COUNTER FLASHING FOR BRICK WALL	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected

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Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-08A 032119057-0015	DRIVE THROUGH CANOPY ROOF - BLACK CAULKING AROUND ROOF DRAIN	Black Non-Fibrous Homogeneous	2% Fibrous_Other	7% Quartz 35% Ca Carbonate 5% Mica 51.0% Non-fibrous (Other)	None Detected
10142KS-08B 032119057-0016	DRIVE THROUGH CANOPY ROOF - BLACK CAULKING AROUND ROOF DRAIN	Brown Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected
10142KS-09A 032119057-0017	DRIVE THROUGH CANOPY ROOF - BLACK TAR AROUND ROOF DRAIN	Black Non-Fibrous Homogeneous		3% Quartz 5% Ca Carbonate 85.0% Non-fibrous (Other)	7% Chrysotile
10142KS-09B 032119057-0018	DRIVE THROUGH CANOPY ROOF - BLACK TAR AROUND ROOF DRAIN				Positive Stop (Not Analyzed)
10142KS-10A 032119057-0019	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING UP PARAPET WALL	Black Fibrous Homogeneous		10% Quartz 75.0% Non-fibrous (Other)	15% Chrysotile
10142KS-10B 032119057-0020	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING UP PARAPET WALL				Positive Stop (Not Analyzed)
10142KS-11A 032119057-0021	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING CEMENT UP PARAPET WALL	Black Non-Fibrous Homogeneous		3.0% Quartz 5% Ca Carbonate 85.0% Non-fibrous (Other)	7% Chrysotile
10142KS-11B 032119057-0022	MAIN BUILDING ROOF - FLASHING - BLACK FLASHING CEMENT UP PARAPET WALL				Positive Stop (Not Analyzed)

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

Attention: Carlos Texidor
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 510-4365

Fax:

Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-12A 032119057-0023	MAIN BUILDING ROOF - PENETRATIONS - PENETRATION FLASHING CEMENT	Black Non-Fibrous Homogeneous	7% Cellulose	3% Quartz 25% Ca Carbonate 60.0% Non-fibrous (Other)	5% Chrysotile
10142KS-12B 032119057-0024	MAIN BUILDING ROOF - PENETRATIONS - PENETRATION FLASHING CEMENT				Positive Stop (Not Analyzed)
10142KS-13A 032119057-0025	MAIN BUILDING ROOF - FLASHING - BLACK CAULKING AT TOP OF METAL COUNTER FLASHING	Black Fibrous Homogeneous		20% Quartz 10% Ca Carbonate 65.0% Non-fibrous (Other)	5% Chrysotile
10142KS-13B 032119057-0026	MAIN BUILDING ROOF - FLASHING - BLACK CAULKING AT TOP OF METAL COUNTER FLASHING				Positive Stop (Not Analyzed)
10142KS-14A 032119057-0027	MAIN BUILDING ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH BLACK MEMBRANE	Black Non-Fibrous Homogeneous	7% Synthetic 5% Glass	3% Quartz 35% Ca Carbonate 50.0% Non-fibrous (Other)	None Detected
10142KS-14B 032119057-0028	MAIN BUILDING ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH BLACK MEMBRANE	Black Non-Fibrous Homogeneous	4% Cellulose	96.0% Non-fibrous (Other)	None Detected
10142KS-15A 032119057-0029	MAIN BUILDING ROOF - FIELD - BLACK MEMBRANE	Black Non-Fibrous Homogeneous	7% Synthetic 5% Glass	3% Quartz 30% Ca Carbonate 55.0% Non-fibrous (Other)	None Detected
10142KS-15B 032119057-0030	MAIN BUILDING ROOF - FIELD - BLACK MEMBRANE	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80.0% Non-fibrous (Other)	None Detected

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Phone: (860) 510-4365

Fax:

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Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-16A 032119057-0031	MAIN BUILDING ROOF - FIELD - GRAY PAPER ASSOCIATE WITH ISO FOAM LAYERS	Black/Yellow Fibrous Heterogeneous	55% Cellulose 25% Glass	3% Quartz 7% Ca Carbonate 10.0% Non-fibrous (Other)	None Detected
10142KS-16B 032119057-0032	MAIN BUILDING ROOF - FIELD - GRAY PAPER ASSOCIATE WITH ISO FOAM LAYERS	Brown/Tan Fibrous Homogeneous	50% Cellulose 10% Glass	40.0% Non-fibrous (Other)	None Detected
10142KS-17A 032119057-0033	MAIN BUILDING ROOF - FIELD - BROWN FIBERBOARD	Brown/Black Fibrous Homogeneous	80% Cellulose	3% Quartz 7% Ca Carbonate 10.0% Non-fibrous (Other)	None Detected
10142KS-17B 032119057-0034	MAIN BUILDING ROOF - FIELD - BROWN FIBERBOARD	Brown Fibrous Homogeneous	90% Cellulose	10.0% Non-fibrous (Other)	None Detected
10142KS-18A 032119057-0035	MAIN BUILDING ROOF - FIELD - BLACK BUILT UP ASPHALT ROOFING	Black Non-Fibrous Homogeneous	35% Cellulose 5% Glass	10% Quartz 15% Ca Carbonate 35.0% Non-fibrous (Other)	None Detected
10142KS-18B 032119057-0036	MAIN BUILDING ROOF - FIELD - BLACK BUILT UP ASPHALT ROOFING	Black Non-Fibrous Homogeneous	10% Cellulose	90.0% Non-fibrous (Other)	None Detected
10142KS-19A 032119057-0037	MAIN BUILDING ROOF - FIELD - BROWN PAPER	Red Fibrous Homogeneous	65% Cellulose	5% Quartz 10% Ca Carbonate 20.0% Non-fibrous (Other)	<1% Chrysotile
10142KS-19B 032119057-0038	MAIN BUILDING ROOF - FIELD - BROWN PAPER	Brown/Black Non-Fibrous Homogeneous	20% Cellulose	80.0% Non-fibrous (Other)	None Detected
10142KS-20A 032119057-0039	MAIN BUILDING ROOF - PARAPET WALL - RED TERRACOTTA BLOCK MORTAR	Red/Black Non-Fibrous Homogeneous	3% Cellulose	25% Quartz 40% Ca Carbonate 5% Mica 27.0% Non-fibrous (Other)	None Detected

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Initial report from: 10/22/2021 16:25:25



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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

Attention: Carlos Texidor
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146 Hartford Road
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Phone: (860) 510-4365

Fax:

Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET /
MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
10142KS-20B 032119057-0040	MAIN BUILDING ROOF - PARAPET WALL - RED TERRACOTTA BLOCK MORTAR	Brown Non-Fibrous Homogeneous		30% Quartz 30% Ca Carbonate 40.0% Non-fibrous (Other)	None Detected
10142KS-21A 032119057-0041	MAIN BUILDING ROOF - PARAPET WALL - TERRCOTTA PARAPET WALL CAPSTONE	Various Non-Fibrous Homogeneous		30% Quartz 10% Ca Carbonate 5% Mica 55.0% Non-fibrous (Other)	None Detected
10142KS-21B 032119057-0042	MAIN BUILDING ROOF - PARAPET WALL - TERRCOTTA PARAPET WALL CAPSTONE	Tan Non-Fibrous Homogeneous		30% Quartz 70.0% Non-fibrous (Other)	None Detected
10142KS-22A 032119057-0043	SECOND FLOOR MECHANICAL ROOM - BLACK FLEX CONNECTOR ASSOCIATED WITH DUCTWORK	Black Non-Fibrous Homogeneous	30% Glass	70.0% Non-fibrous (Other)	None Detected
10142KS-22B 032119057-0044	SECOND FLOOR MECHANICAL ROOM - BLACK FLEX CONNECTOR ASSOCIATED WITH DUCTWORK	Gray Fibrous Homogeneous	30% Glass	70.0% Non-fibrous (Other)	None Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/22/2021 16:25:25



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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

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146 Hartford Road
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Phone: (860) 510-4365

Fax:

Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET /
MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date: 10/19/2021

Sample Receipt Time: 10:05 AM

Analysis Completed Date: 10/22/2021

Analysis Completed Time: 12:34 AM

Analyst(s):

Ghaly Hemaya PLM (15)

Kerrie Gibson PLM (22)

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EMSL Order: 032119057

Customer ID: ENVI54

Customer PO: 20170932.C11

Project ID:

Attention: Carlos Texidor
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146 Hartford Road
Manchester, CT 06040

Phone: (860) 510-4365

Fax:

Received Date: 10/19/2021 10:05 AM

Analysis Date: 10/21/2021 - 10/22/2021

Collected Date: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET /
MERIDEN CT / ROOF AND 2ND FLOOR MECH ROOM

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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EMSL Order: 032119057
CustomerID: ENVI54
CustomerPO: 20170932.C11
ProjectID:

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Phone: (860) 646-2469
Fax:
Received: 10/19/2021 10:05 AM
Analysis Date: 10/22/2021
Collected: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
10142KS-01A 032119057-0001	BUILDING C SIDE LOUVERS - GRAY CAULKING ASSOCIATED WITH LOUVERS	Gray Non-Fibrous Heterogeneous	99.52	None	0.48% Anthophyllite
10142KS-02A 032119057-0003	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-03A 032119057-0005	DRIVE THROUGH CANOPY ROOF - FIELD - BLACK ROOFING MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-07A 032119057-0013	DRIVE THROUGH CANOPY ROOF - FLASHING - BLACK CAULKING AT TOP OF COUNTER FLASHING FOR BRICK WALL	Black Non-Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-08A 032119057-0015	DRIVE THROUGH CANOPY ROOF - BLACK CAULKING AROUND ROOF DRAIN	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-14A 032119057-0027	MAIN BUILDING ROOF - FIELD - BLACK LAP SEALANT ASSOCIATED WITH BLACK MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-15A 032119057-0029	MAIN BUILDING ROOF - FIELD - BLACK MEMBRANE	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected
10142KS-18A 032119057-0035	MAIN BUILDING ROOF - FIELD - BLACK BUILT UP ASPHALT ROOFING	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected

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Samples analyzed by EMSL Analytical, Inc. New York, NY

Initial report from 10/22/2021 15:51:55

**EMSL Analytical, Inc.**

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EMSL Order: 032119057
CustomerID: ENVI54
CustomerPO: 20170932.C11
ProjectID:

Attn: **Carlos Texidor**
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Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Received: 10/19/2021 10:05 AM
Analysis Date: 10/22/2021
Collected: 10/14/2021

Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
10142KS-22A 032119057-0043	SECOND FLOOR MECHANICAL ROOM - BLACK FLEX CONNECTOR ASSOCIATED WITH DUCTWORK	Black Fibrous Heterogeneous	100.0	None	No Asbestos Detected

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Project: 20170932C11/ TASK 00500/ CITY OF MERIDEN - 100 HANNOVER STREET / 100 HANNOVER STREET / MERIDEN CT / ROOF AND 2ND

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Report Comments:

Sample Receipt Date::	10/19/2021	Sample Receipt Time:	10:05 AM
Analysis Completed Date:	10/22/2021	Analysis Completed Time:	3:38 PM

Analyst(s):

Venisha Lazarus-Barnes TEM EPA NOB (9)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY

Initial report from 10/22/2021 15:51:55



ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Project Name: City of Meriden - 100 Hannover Street Project No. 20170932.C11 Task No.: 000500

Site Address: 100 Hannover Street, Meriden, CT Location: Elevator Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
102121KS-01A	Elevator Car	Tan adhesive associated with tan carpet
102121KS-01B	Elevator Car	Tan adhesive associated with tan carpet
102121KS-02A	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02B	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02C	Wall outside elevator shaft – Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall

Analysis Method: ☒ PLM ☐ TEM ☐ Other Turnaround Time: PLM: 24 Hours TEM: 24 Hours

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 10/25/21. Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and ctexidor@fando.com Do Not Mail Hard Copy Report

Total # of Samples: 5

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.

Samples collected by: Kristina Snurkowski Date: 10/21/21

Samples Sent by: Kristina Snurkowski Date: 10/22/21 Time: 4:30 PM

Samples Received by: [Signature] 10:35 AM Date: 10/23/21 Time: [Signature]

Shipped To: ☒ EMSL ☐ OtherMethod of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other2021 OCT 23 AM 10:35
RECEIVEDSM Re - 10-24-21
FX: 8139 2517 6383

032119376



FUSS & O'NEILL

Fuss & O'Neill EMSL Customer No. ENVI54

www.fando.com

146 Hartford Road, Manchester, CT 06040

Phone (860) 646-2469

Page 1 of 1

Date: 10/21/21

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Project Name: City of Meriden - 100 Hannover Street

Project No. 20170932.C11

Task No.: 000500

Site Address: 100 Hannover Street, Meriden, CT

Location: Elevator

Project Manager: Carlos Texidor

Sample ID	Sample Location	Type of Material
102121KS-01A	Elevator Car	Tan adhesive associated with tan carpet
102121KS-01B	Elevator Car	Tan adhesive associated with tan carpet
102121KS-02A	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02B	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall
102121KS-02C	Wall outside elevator shaft - Main Entry	White joint compound (or skim coat plaster) applied over CMU block wall

Analysis Method: ☒ PLM ☐ TEM ☐ Other

Turnaround Time: PLM: 24 Hours TEM: 24 Hours

Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 10/25/21. Please call Fuss & O'Neill if analyses will not be completed for requested t/a/t at (860) 646-2469.

Email Results to: LabResults@fando.com and ctexidor@fando.com

Do Not Mail Hard Copy Report

Total # of Samples: 5

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.

Samples collected by: Kristina Snurkowski Date: 10/21/21

Samples Sent by: Date: 10/22/21 Time: 4:30 PM

Samples Received by: 10:35 AM Date: 10/23/21 Time:

Shipped To: ☒ EMSL ☐ OtherMethod of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other

2021 OCT 23 AM 10:35

RECEIVED

FX: 8139 2517 6383

10/25/21

10/25/21



EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018
 Phone/Fax: (212) 290-0051 / (212) 290-0058
<http://www.EMSL.com> / manhattanlab@emsl.com

EMSL Order ID: 032119376
 Customer ID: ENVI54
 Customer PO: 21070932.C11
 Project ID:

Attn: Carlos Texidor
 Fuss & O'Neill, Inc.
 146 Hartford Road
 Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Collected: 10/21/2021
Received: 10/23/2021
Analyzed: 10/25/2021

Proj: 20170932.C11/ 000500/ CITY OF MERIDEN - 100 HANOVER STREET/ 100 HANNOVER STREET, MERIDEN, CT

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 102121KS-01A

Lab Sample ID: 032119376-0001

Sample Description: ELEVATOR CAR/TAN ADHESIVE ASSOCIATED WITH TAN CARPET

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/24/2021	Brown	4.0%	96.0%	None Detected	
TEM Grav. Reduction	10/24/2021	Brown	0.0%	100.0%	<0.1% Chrysotile	

Client Sample ID: 102121KS-01B

Lab Sample ID: 032119376-0002

Sample Description: ELEVATOR CAR/TAN ADHESIVE ASSOCIATED WITH TAN CARPET

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 102121KS-02A

Lab Sample ID: 032119376-0003

Sample Description: WALL OUTSIDE ELEVATOR SHAFT - MAIN ENTRY/WHITE JOINT COMPOUND (OR SKIM COAT PLASTER) APPLIED OVER CMU BLOCK WALL

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/24/2021	White	0.0%	100.0%	None Detected	

Client Sample ID: 102121KS-02B

Lab Sample ID: 032119376-0004

Sample Description: WALL OUTSIDE ELEVATOR SHAFT - MAIN ENTRY/WHITE JOINT COMPOUND (OR SKIM COAT PLASTER) APPLIED OVER CMU BLOCK WALL

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/24/2021	White	0.0%	100.0%	None Detected	

Client Sample ID: 102121KS-02C

Lab Sample ID: 032119376-0005

Sample Description: WALL OUTSIDE ELEVATOR SHAFT - MAIN ENTRY/WHITE JOINT COMPOUND (OR SKIM COAT PLASTER) APPLIED OVER CMU BLOCK WALL

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/25/2021	Gray/White	0.0%	100.0%	None Detected	



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EMSL Order ID: 032119376
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Attn: Carlos Texidor
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Analyzed: 10/25/2021

Proj: 20170932.C11/ 000500/ CITY OF MERIDEN - 100 HANOVER STREET/ 100 HANNOVER STREET, MERIDEN, CT

The samples in this report were submitted for asbestos bulk analysis. The reference number for these samples is the Order ID above. Please use this reference number when calling about these samples.

Sample Receipt Date: 10/23/2021

Sample Receipt Time: 10:35 am

Analysis Completed Date: 10/25/2021

Analysis Completed Time: 9:51 am

Analyst(s):

Angelica Serrano PLM (2)

Isaac Mendez TEM Grav. Reduction (1)

Tiquasha Thompson PLM (3)

Reviewed and approved by:

James Hall, 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. Estimation of uncertainty available upon request. This report is a summary of multiple methods of analysis, fully compliant reports are available upon request. A combination of PLM and TEM analysis may be necessary to ensure consistently reliable detection of asbestos. This report must not be used to claim product endorsement by NVLAP of any agency or the U.S. Government.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NJ NY022, CT PH-0170, MA AA000170

Appendix D

Site Photographs



Building Exterior – B Side



Building Exterior – A Side



Exterior – D Side



Main Entry



Exterior – C Side



Chapel/Service area



Storage room adjacent to service area



Women's bathroom 1st floor



Men's Bathroom 1st floor



Main entry area



1st floor hallway



1st floor electrical room



1st floor closet



1st floor mechanical room



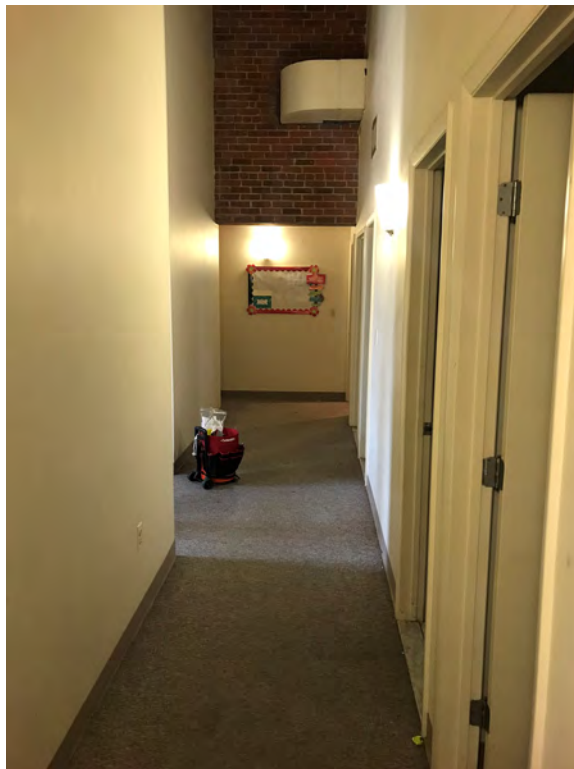
1st floor office area



1st floor office



2nd floor event room



2nd floor hallway



2nd floor kitchen



2nd floor small storage room of kitchen



2nd floor large storage room



2nd floor wash room



2nd floor men's bathroom



2nd floor women's bathroom



2nd floor HVAC mechanical room



2nd floor former bank office space



2nd floor former bank office area – additional view



2nd floor ceiling



2nd floor classroom



2nd floor office



2nd floor conference room



2nd floor large classroom area



2nd floor loft space



Attic space



Attic space



Gray caulking associated with louvres



Drive through roof



Main building roof



Additional view of roof



Main building roof metal flashing (termination bar) caulking



Concrete coring in main entry



Core hole completed



Plastic vapor barrier below foundation (none suspected)



Main entry coring location after patch and clean up

Appendix E

XRF Lead Determination Field Data Sheets

XRF LEAD DETERMINATION FIELD DATA SHEET

Inspector Name: Kristina Snurkowski Inspector License #: 2253

Date: 2/17/2020 XRF Model: RMD or Viken Serial: 2170

Project Name: 100 Hanover Street - City of Meriden Project Number: 20170932, C10
TASK 530

Address: 100 Hanover St, Meriden Project PM: Carlos Texidor
XRF Calibration Check-RMD (0.7 to 1.3 mg/cm² inclusive)

	Hour	First Reading	Second Reading	Third Reading	Average
First Check	0850	0.9	1.0	1.0	1.0
Second Check	1232	0.9	0.9	0.9	0.9
Third Check	1528	0.9	0.9	1.0	0.9
Fourth Check					

Side	Surface/Component	Substrate/Color	XRF Reading	Positive (✓)	Comments/Notes
D	wall	S / green	0.1		Entry to chapel ↓
A	window frame	M / Black	0.3		
A	window sill	↓	0.3		
-	floor	Ceramic / Brown	0.2		
B	Door frame	M / Black	0.1		
B	Door	m / Black	0.3		Chapel ↓
A	Wall	B / white	-0.2		
A	wall	S / white	0.5		
D	Door to Storage	m / white	0.2		Main Entry ↓
D	Door frame to Storage	↓	0.4		
B	wall	S / white	0.4		
C	wall	S / green	0.4		Office area ↓
C	Door to electrical	m / white	0.3		
C	Door frame to electrical	↓	0.1		
B	wall	S / white	0.5		Office area ↓
B	Door to main entry	M / white	0.3		

* Substrate Type: Metal = M, Wood = W, Plaster = P, Sheetrock = S, Concrete = C, Brick = B
N/A: Not Accessible; N/C: Not Coated; COV: Covered; VR - Vinyl Replacement

Side	Surface/Component	Substrate/Color	XRF Reading	Positive (✓)	Comments/Notes
D	wall	S/white	6.2		Office area
A	wall upper	S/white	0.3		Bathroom off office
A	wall lower	Ceramic/yellow	-0.5		
-	floor	↓	6.2		
A	Door to bathroom	W/Brown	0.2		
A	Door to bath-frame	M/white	0.2		
A	wall	S/white	6.3		Stairway (c side)
-	ceiling	↓	0.2		
-	floor	C/gray	0.1		
-	hand rail	M/black	0.2		
A	wall	S/white	0.2		2nd Fl Event Rm
-	ceiling	W/brown	0.0		
-	stairs to loft	W/white	0.0		
-	bannister supports	↓	0.0		
-	bannister	W/brown	-0.1		
-	column support	W/white	0.3		
A	Wall	S/white	0.1		Second floor Hall
A	Window	M/brown	0.1		
B	Elevator Door	M/white	0.2		
B	Elevator Door frame	↓	0.1		
C	Door to bathroom	W/Brown	-0.1		
E	Door frame	M/white	0.0		
C	Door to Castle bank	W/white	0.1		
C	Door frame	↓	-0.1		
A	Door to stairway	M/white	0.2		
A	Door frame	↓	0.1		
B	Wall	S/white	6.0		Castle Bank area
-	ceiling	W/Brown	0.2		
A	Door	W/white	0.0		
A	Door frame	↓	-0.1		
-	Bannister	W/Brown	0.2		

* Substrate Type: Metal = M, Wood = W, Plaster = P, Sheetrock = S, Concrete = C, Brick = B
N/A: Not Accessible; N/C: Not Coated; COV: Covered; VR - Vinyl Replacement



Appendix F

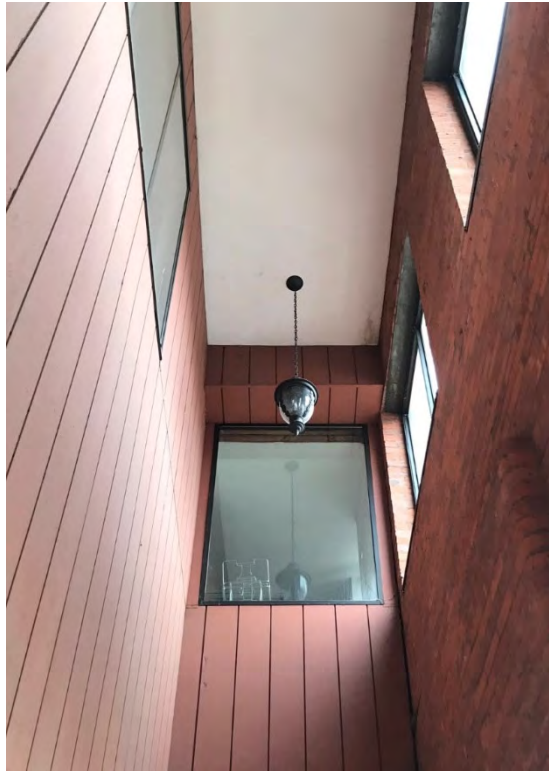
Door and Window Types



Type 1 Window: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 2 Window: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 3 Window: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 4 Windows: Gray caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 5 Windows: Brown Caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 1 Doors: No caulking or glazing observed



Type 2 Door: Brown caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 3 Door: Dark gray caulking: Non asbestos, Presumed PCBs >50 PPM (same caulking on Type 5 Door); No glazing observed



Type 4 Door: Light brown caulking: Non asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 5 Door: Dark Gray Caulking; Non asbestos, Presumed PCBs >50 PPM (same caulking as Type 3 Door); No glazing observed



Type 6 Door: Dark brown caulking; 3% Asbestos, Presumed PCBs >50 PPM; No glazing observed



Type 7 Door: No caulking; Light gray glazing: Presumed PCBs >50 PPM



Type 8 Door: No caulking observed



Type 9 Door: No caulking observed



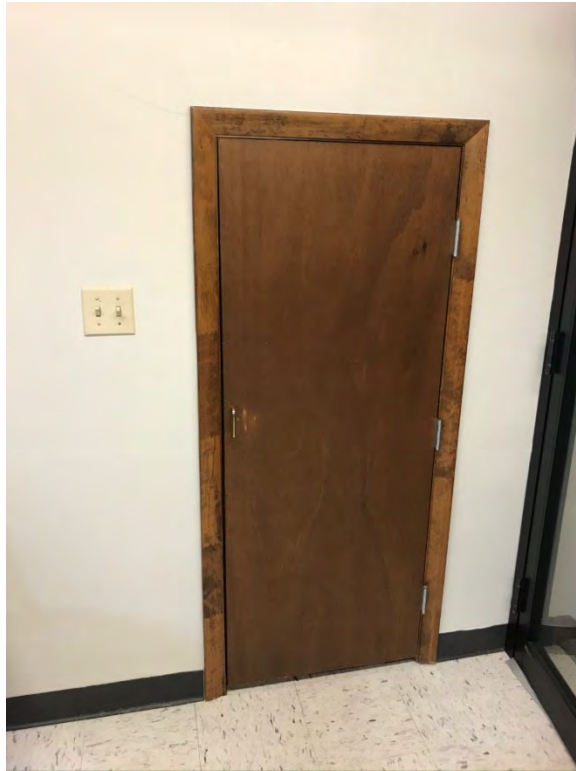
Type 10 Door: No caulking or glazing observed



Type 11 Door: No caulking observed



Type 12 Door (Right): No caulking or glazing observed



Type 13 Door: No caulking observed

1. PROPOSED WORK WILL INCLUDE REMOVAL OF BUILDING AND FOUNDATION ELEMENTS INDICATED. ALL UTILITIES ENTERING THE BUILDINGS WILL BE CUT & CAPPED IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS, FILLED WITH NON-SHRINK GROUT OR CONTROLLED LOW STRENGTH MATERIAL OR PVC COVER IN ACCORDANCE WITH UTILITY OWNER'S REQUIREMENTS.
2. ALL DEMOLITION DEBRIS SHALL BE REMOVED FROM THE SITE BY CONTRACTOR EVERY OTHER DAY AT A MINIMUM. COORDINATE WASTE REMOVAL WITH OWNER.
3. IF UTILITIES ARE FOUND TO BE SHARED WITH ANOTHER BUILDING, CONTACT THE ENGINEER OF RECORD PRIOR TO DISCONNECT OR DEMOLITION
4. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED TO ALL BUILDINGS AT ALL TIMES DURING DEMOLITION AND SITE RESTORATION.

1. REMOVE ALL VEGETATION WITHIN PROJECT LIMITS EXCEPT THOSE TREES INDICATED TO REMAIN. CUT STUMPS FLUSH WITH ADJACENT GRADE.
2. INSTALL TEMPORARY CONSTRUCTION FENCE PRIOR TO DEMOLITION AND MAINTAIN WHILE DEMOLITION ACTIVITIES ARE OCCURRING. WHERE EXISTING FENCE DOES NOT PROTECT THE PROPERTY'S BOUNDARIES, REPAIR OR REPLACE EXISTING FENCE AS NEEDED.

1. PRIOR TO CARRYING OUT ANY BUILDING DEMOLITION, DETAILED INSPECTION BY MEANS OF SURVEYS AND APPROPRIATE ASSESSMENTS SHALL BE REQUIRED. IN GENERAL, THE SURVEYS SHALL INCLUDE A STRUCTURAL SURVEY WITH PHOTOGRAPHS OR VIDEOS TAKEN FOR FUTURE REFERENCE. BASED ON THE FINDINGS OF THESE SURVEYS, A DEMOLITION PLAN MUST ALSO BE ACCOMPANIED BY A REPORT ASSESSING THE STABILITY OF THE BUILDING TO BE DEMOLISHED AND ALL AFFECTED BUILDINGS, STRUCTURES, STREETS, LAND AND UTILITIES.
2. DEMOLITION PLAN — A DEMOLITION PLAN SHALL INCLUDE THE FOLLOWING:
 - 2.1. A PLAN SHOWING THE LOCATION OF THE BUILDING TO BE DEMOLISHED, DETAILS OF GROUND REMOVAL AND/OR BACKFILLING; AND THE DISTANCES FROM THE BUILDING TO BE DEMOLISHED TO ITS ADJACENT BUILDINGS, STREETS AND STRUCTURES.
 - 2.2. A PLAN SHOWING ALL PRECAUTIONARY MEASURES FOR THE PROTECTION OF THE PUBLIC INCLUDING FENCES, COVERED WALKWAYS, CATCH PLATFORMS, SCAFFOLDING, PROTECTIVE SCREENS AND SAFETY NETS.
 - 2.3. A PLAN SHOWING THE PROPOSED SHORING AND TEMPORARY SUPPORT TO BE PROVIDED TO THE BUILDING TO BE DEMOLISHED.
3. SPRAY BUILDING MATERIALS WITH WATER IMMEDIATELY PRIOR TO BUILDING DEMOLITION. SPRAY DEBRIS PILE AS NECESSARY TO CONTROL DUST GENERATION AND MIGRATION.
4. IMMEDIATELY AFTER FUGITIVE DUST IS OBSERVED, IMPLEMENT ADDITIONAL CONTROL MEASURES INCLUDING WATER SPRAY, CALCIUM CHLORIDE SPRAY, STOCKPILE COVERING, SURFACE SWEEPING, ETC. UNTIL THE DUST IS CONTROLLED.
5. DEMOLITION PROCEDURES AND PRACTICES SHALL BE EXECUTED IN ACCORDANCE WITH OSHA, STANDARD 1926, SUB PART T.
6. NO WALL SECTION, WHICH IS MORE THAN ONE STORY IN HEIGHT, SHALL BE PERMITTED TO STAND ALONE WITHOUT LATERAL BRACING, UNLESS SUCH A WALL WAS ORIGINALLY DESIGNED AND CONSTRUCTED TO STAND WITHOUT SUCH LATERAL SUPPORT AND IS IN A CONDITION SAFE ENOUGH TO BE SELF-SUPPORTING. ALL WALLS SHALL BE LEFT IN A STABLE CONDITION AT THE END OF EACH SHIFT.
7. CONTRACTOR TO PROTECT UTILITIES AND POLES DURING ALL DEMOLITION ACTIVITIES.
8. DEMOLITION SHALL BE BY MECHANICAL OR MANUAL MEANS. THE USE OF EXPLOSIVE DEVICES IS PROHIBITED.
9. BEFORE DEMOLISHING ANY STRUCTURE DEBRIS AND OTHER MATERIAL SHALL BE REMOVED FROM INSIDE THE STRUCTURE AND ADJACENT AREAS
10. BUILDINGS AND FOUNDATION ELEMENTS SHALL BE FULLY REMOVED.
11. BACKFILL WITH SUITABLE FILL IN AREAS WHERE FOUNDATION ELEMENTS ARE REMOVED TO MATCH EXISTING ADJACENT GRADES.
12. CONTRACTOR SHALL PROTECT HARBOR BROOK FROM ALL CONSTRUCTION AND DEMOLITION DEBRIS THROUGHOUT DURATION OF CONSTRUCTION AND DEMOLITION ACTIVITIES.




No.	DATE	DESCRIPTION	DESIGNER REVIEWER

SEAL

SEAL

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SCALE:			
	HORZ.: ?" = ???'		
	VERT.:		
DATUM:			
	HORZ.:		
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??	??	0	??
			
GRAPHIC SCALE			



CITY OF MERIDEN CONNECTICUT

100 HANOVER STREET BUILDING DEMOLITION

CHANNEL IMPROVEMENTS PROJECT

MERIDEN CONNECTICUT

PROJ. No.: 20170932.C11
 DATE: JANUARY 2022

SD-100